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ABSTRACT

A study examined the role of trade associations in vocational education programming. The primary objectives of the study were to identify ways to improve vocational education planning through greater involvement of trade associations in ways other than as suppliers of labor market information and to determine whether national or state trade associations are likely sources of useful labor market information for vocational education planning. Approximately 100 candidate trade associations were identified from a preliminary survey of state directors of vocational education. Of these, five national trade associations were selected for on-site case studies, and 53 state trade associations were selected for abbreviated case studies that were conducted by telephone. The case studies resulted in findings dealing with the following aspects of the role of trade associations in vocational education: current operational activities conducted by trade associations in support of vocational education planning and programming and the prospects of their future involvement; present and prospective initiation of linkages between trade associations and vocational education; current and prospective practices for the planning and operational phases of trade associations-vocational education linkage activities; benefits of trade associations linkages with vocational education; and facilitators and inhibitors influencing planning, conduct, and outcomes of trade association-sponsored activities. (Appendixes include various project correspondence, a project profile, the national trade association case study interview schedule, the case study instrument for assessing market/changing technology information, and planning/programming and labor market/changing technology grids.) (MN)

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IMPROVING VOCATIONAL EDUCATION PROGRAMMING THROUGH GREATER INVOLVEMENT OF TRADE ASSOCIATIONS

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FOREWORD

Many trade associations have a long history of being involved in vocational education planning and programming at secondary and postsecondary levels. The potential of their increased involvement, as a segment of the private sector, was recognized specifically in the Carl D. Perkins Vocational Education Act. Little is documented, however, about the policies, processes, and procedures that trade associations use to link with vocational education. Moreover, whether trade associations possess and/or are willing to share useful labor market and technological updating information with vocational education is also undocumented.

The paucity of published information on existing trade association-vocational education linkages and the potential constructive benefits that might be derived through greater involvement of the two groups, prompted the Office of Vocational and Adult Education (OVAE), U.S. Department of Education, and the National Center for Research in Vocational Education to conduct this pioneering study. The results should start a continuing dialogue and energized efforts to build more viable linkages between trade associations and vocational education.

Sincere thanks are extended to all of the trade association representatives who helped by providing their candid views and sharing important insights and guidance and to the state directors of vocational education for their assistance and interest in the study. Their interest and assistance helped significantly to complete the project.

The National Center expresses its appreciation to OVAE staff members who were most cooperative and helpful in this effort. The National Center is also appreciative of the constructive reviews of the final report provided by Tom Brennan, Director of Member Services, The Printing Industries of the Carolinas, Inc., Charlotte, North Carolina; John Folz, Executive Director, Ohio Grain and Feed Association, Worthington, Ohio; Robert E. Taylor, Founder and Executive Director emeritus of the National Center, Silver City, New Mexico; and Robert Bhaerman and Allen Wiant of the National Center staff. Thanks are due to Gayle Shibano for coordinating the internal and external Product Review Exchange. The study was conducted in the Applied Research and Development Division under the leadership of Richard Miguel, Associate Director. Roy L. Butler, Senior Research Specialist, served as the Project Director. Wayne E. Schroeder, Senior Research Specialist, conducted three of the National trade association case studies and assumed a major responsibility for the final report preparation. Robert E. Norton, Senior Research Specialist, conducted two of the National trade association case studies and developed the case study reports as well as other draft materials for the final report. Jennifer Humphries-Cummings, Program Associate, assisted with the interview guide development, conducted nearly all of the state trade association case studies, and assisted with the analysis and summarization of collected information. Lorna Calvert served as the project typist and along with Debbie Koenig and Marilyn Willhoff was responsible for preparing the final manuscript on the word processor. Editing was performed by Judy Balogh and Ciritta Park of the National Center's Editorial Services.

Special thanks are due to Robert E. Taylor, founder and Executive Director Emeritus of the National Center, for his initiative in amplifying the need for the study and his guidance during the conduct of the study.

Chester K. Hansen
Acting Executive Director
The National Center for
Research in Vocational
Education

EXECUTIVE SUMMARY

This research project explored policies, processes, and procedures for the greater involvement of employer member trade associations in vocational education programming. Two objectives were pursued: (1) identify ways to improve vocational education planning through greater involvement of trade associations other than as suppliers of labor market information, and (2) determine if national or state trade associations are likely sources of useful labor market information for vocational education planning. A case study approach was used to collect information from national and state trade associations representing employers.

Candidate trade associations were identified through literature references and contacts with trade association representatives, such as the American Society for Association Executives, and by seeking trade association-vocational education linkage information in the states from the state directors of vocational education. A total of 23 state directors responded and reported a total of 494 linkages with trade associations. The candidates were classified in accordance with business and industry sectors, geographic representation, and relationship to growing, or potential growing, areas of vocational education program enrollments. Preliminary information was collected by phone from approximately 100 trade association while eliciting their potential participation in the study. This information was used to select purposefully five national trade associations for on-site case studies and 53 state trade association for abbreviated case studies via telephone.

A case study interview guide was developed and reviewed internally by National Center staff who had considerable experience in conducting case studies, and, its use was tested with a trade association located in Columbus, Ohio. Necessary revisions were made and the guide was used to focus information collection during the case studies. The case studies were conducted over an approximate 6-month period of time. Frequent meetings of case study interviewers were held to exchange insights, ensure consistency of approaches, and analyze findings on a preliminary basis. Each case study interviewer then accepted

the responsibility for writing first drafts of the national trade association case studies and summarizing case studies conducted via telephone of state trade association linkages with vocational education.

Collected case study information was further analyzed and synthesized along with other related data. The final report draft was written in accordance with an outline developed for that purpose earlier in the project. The first draft of the report was reviewed by the National Center division associate director and revised as necessary. The second draft was submitted to the National Center's Product Review Exchange (PRE) to obtain the constructive criticisms and suggestions of three external and two internal reviewers. The blinded PRE results were studied and discussed by project staff and revisions were made as appropriate. The revised report was edited, further revised per editoral suggestions, and produced for submission to the sponsor. A case study report of the five national trade associations, approved by each, appears in the final report.

Continuing efforts were made to give the study visibility through articles in the National Center's Centergram (a quarterly publication produced at no cost to the sponsor), response to telephone inquiries from trade association and vocational education representatives, and distribution of a project profile at various meetings held at the National Center and elsewhere.

Five elements provide the framework for presenting the findings associated with objective one of the study:

1. Current operational activities conducted by trade associations in support of vocational education planning and programming and the prospects of their future involvement.

   - The five national trade associations reported a total of 33 different activities and a range of 3-11 activities. States revealed 75 activities and a range of 1-4 activities per state. The number of reported activities were grouped into six types, which were compatible with the responses of national and state trade associations (curriculum and instruction; teacher training and support; career guidance, placement, on-the-job experience, certification; donations of contests, prizes, scholarships, and equipment; program advisory support; and promotion and legislation). Nationals were most active in curriculum and instruction, whereas states were most prominent in giving donations for various purposes. Within the two groups, state trade associations divided their efforts among the six types of activities more evenly than did the nationals. All five nationals are engaged heavily in educational materials development and distribution, to the extent of being vendors focused on supporting their operations. Promotion and legislation for vocational education were the least reported activities.

- Nationals were slightly more optimistic about increasing their future activities in support of vocational education than state trade associations.

2. Present and prospective initiation of linkages between trade associations and vocational education.

   - Six areas were explored on the issue of activity initiation, three dealing with existing linkages and three to query trade associations on future prospects for linkage initiation. Three initiation sources (trade association, joint initiation, vocational education) were analyzed across the responses to the six areas.

   - National trade associations report that they are the most likely source for linkage activity initiation, whereas state trade associations may be more inclined to respond to activities initiated by vocational education.

   - National linkage activity initiation was fairly evenly divided between trade association and joint vocational education-trade association requests.

   - National trade associations rely upon one of their key officials to approve planning and programming linkages with vocational education. State associations revealed that approval is a shared responsibility among their key officials, a board of directors, or an association member.

   - In initiating future linkage activities, national trade associations prefer to continue being the initiator and the majority of state associations prefer that vocational education be the initiator.

   - National trade associations prefer that future linkages with vocational education be handled through one of their specially designated departments or offices, whereas state trade associations indicated a preference for their chief executive officer to be responsible for such matters.

   - National trade associations prefer for future linkages to be operated in combination with state and local vocational education personnel. State trade associations by contrast prefer to link in the future with state-level vocational education.

3. Current and prospective practices for the planning and operational phases of trade association-vocational education linkage activities.

   o Existing national trade association linkages with vocational education are lead predominantly by the national headquarters. State association planning and operational linkages are very decentralized with nearly half of the activities being led by an individual association member.

   o The planning and operational procedures used for linkages with vocational education by state trade associations are informal and flexible, whereas the nationals were more structured.

   o Future linkage activities and funding were suggested by state trade associations, to come primarily from them. Nationals felt that state and federal governments should fund the bulk of linkage activities (especially basic curriculum development) and that trade associations should provide awards, scholarships, and so forth.

   o National and state trade associations focus more planning and programming linkage activities upon vocational education students. Vocational education teachers are a distant second audience for linkages.

4. Benefits of trade association linkages with vocational education.

   o National trade associations attached more importance to getting better employees than state associations. The value of good publicity for the trade association because of linkages with vocational education was viewed about equally important by national and state trade associations.

   o National and state trade associations agree that vocational education benefits from receiving technical advice and instructional materials from them.

   o National and state trade associations suggest a wide range of future benefits from linking with vocational education. The most beneficial features of linkages were suggested to be joint efforts to improve vocational education programs, serving the skill and career development needs of vocational education students, and, to a lesser extent, promoting and protecting vocational education through support of legislative initiatives.

- Other perceived benefits accruing to trade association involvement in linkages were increased interest in association activities by their members, taking little ideas and turning them into a business- or trade-wide ideas and creating a positive image of trade association members as potential employers.

- Satisfying the need to teach vocational education personnel how they should relate to business and industry in investigating new ideas and programs was viewed as important for developing more responsive vocational education programs.

5. Facilitators and inhibitors influencing planning, conduct and outcomes of trade association sponsored activities.

   - The excellent cooperation of vocational education personnel was cited most frequently by national and state trade associations as the most important facilitator of linkages.

   - Vocational education students entering a scholarship program offered by the trade association, and experiences in hiring well-trained vocational education students were other important facilitators to linkages.

   - Inhibitors to past and present linkages were more frequently cited as time and money. Time and money were the most frequently cited by nationals as inhibitors to linkages. State trade associations cited incompatibility between trade associations and vocational education as the most important inhibitor.

   - Cost was viewed by both national and state trade associations as the most likely inhibitor of future linkage activities.

Objective two of the study sought to determine if national or state trade associations were likely sources of useful labor market and changing technology information for vocational education planning and programming.

- Nearly one-fourth of the state trade associations informally collect data on new and emerging jobs, and the effects of changing technology on needed job skills.

- National trade associations do not formally collect information on labor and the effects of changing technology, but integrate informal surveys as input into the preparation of training materials.

- Trade associations informally collect labor market and changing technology information on an occasional and as-needed basis. Most of them rely on secondary sources (e.g., government studies) and contact with futurists and persons in industry for such information.

- Most trade associations do not share their informally collected labor market and changing technology information with vocational education, and the majority of those that have done so are uncertain whether vocational education had used it.

- Locally collected information was viewed as important and more relevant to vocational education planning and programming.

- Trade associations do not perceive themselves as likely sources of formally collected labor market and changing technology information for vocational education planning and programming in the future, but appear willing to share available information they may have.

Recommendations from the study include (1) further investigation into cases of successful and unsuccessful linkages, particularly between state trade associations and vocational education; (2) the assessment of the relative satisfaction of vocational education clients to national and state trade association-produced educational materials and services; (3) exploration of ways to improve locally generated labor market and technological updating information; and (4) the convening of meetings between trade association and vocational education to identify and develop guidelines and procedures for more effective linkages.

PART I

STUDY METHODOLOGY AND RESULTS

INTRODUCTION

A desire for stronger linkages between trade associations and vocational education was the key stimulus for this study. The approach was to query selected officials of national and state trade associations that actively support public secondary and postsecondary vocational education. The purpose was to determine their present and potential contributions to vocational education planning and programming and whether they can provide useful information about labor market projections and the effects of changing technology upon skills needed. Their experiences would hopefully provide further benchmarks in the search for more beneficial trade association-vocational education partnerships.

The remainder of this introductory chapter states the rationale for the study, sets forth the scope and limitations that were inherent, and describes the approach and methods that were employed to carry out the study.

History and Background

Linkages between institutions depend upon the extent to which the respective partners are compatible. Trade associations and public vocational education have differing origins, motivations, and practices. Efforts to strengthen linkages between trade associations and vocational education must recognize the contrasting histories of these two institutions and account for the forces that either unite them or separate them.

Trade associations have grown with the nation. They represent common interests of individuals and organizations in the American private sector. Their practices are vested in the perceived interests and needs, often quite urgent, of their respective members. Historically, their activities have centered heavily upon market development, product promotion, and legislation.

More recently, particularly since World War II, there has been a rapid increase in trade association activity. More regulatory activity, increased competition from a more active international market, and technological development are some key forces that account for more trade associations than before.

Trade association agendas have broadened in recent years. Of special note to this study is their increasing emphasis upon education and training. This has two aspects. One is the further training for their members who are actively employed or in need of retraining for reassignment. The other is an interest by trade associations to make contact and aid in the attraction, training, and placement of young persons into their respective industries. Declining numbers of youth in the work force are already being recognized, and efforts by associations to attract and place young persons will become increasingly active.

American vocational education, by contrast, is aligned with the public schooling system traditions. Public education has the assigned task of providing education for all persons, in a common school setting, and in a highly decentralized system. The individual is supreme in American education, and authority for its provision rests largely with lay persons at the state and local levels. Educational practice provides for much choice and flexibility in accordance with individual interests.

Vocational education is part of the general public educational system, and is therefore influenced by prevailing customs and traditions of the larger system. This includes a significant degree of separation from the work world. When compromises must be made between preparing for workplace requirements and general education of the individual, public education tradition and practice frequently choose the latter. Private sector employers have not always agreed with this choice.

Historically, therefore, a gap has existed between the public and private sectors that is to some extent deliberate. This is not to say that connections between the two have not occurred. In some cases, they have bridged the gap and formed good partnerships to train young persons for employment. Others, however, were ill-fated because of the differing allegiances and expectations of the two partners.

More recent developments have narrowed this gap because of a rise in common interest between private sector interests and public education. On the one hand industries represented by trade associations have had to be more responsive to changes in the workplace, which frequently calls for more training. Public vocational education has also been affected by this change, in that programs are increasingly difficult to keep current. It has resulted in a situation where more than before it is essential to transfer workplace knowhow into school system programs.

In this sense, trade associations and public vocational education are on convergent courses in their search for new and better training. If the overlapping interests of these widely different institutions can be accommodated, American public secondary and postsecondary vocational education will more effectively contribute to the preparation of present and prospective workers.

Problem

Public vocational education exists to serve students and society. In order to be of maximum value to those students and our society, the programs must be responsive to changing labor market needs and the effects of changing technologies on the job skills needed by business and industry.

Since the majority of vocational students go to work for the private sector, it is logical that vocational educators should work closely with the private sector. Congress recognized this need for cooperation when preparing the Carl D. Perkins Vocational Education Act. A major purpose of the act is to "promote greater cooperation between public agencies and the private sector in preparing individuals for employment, in promoting the quality of vocational education in the states, and in making the vocational system more responsive to the labor market in the states" (paragraph 3, section 2).

The message to vocational educators is clear. These educators must develop linkages and avenues of cooperation and collaboration that will result in a better articulation of vocational education programs with the needs of the private sector. The Perkins Act encourages states to make effective use of whatever private sector assistance may be available. What is not very clear is how such partnerships should be instituted and maintained. Further, the procedures and policies that make increased involvement of the private sector in vocational education a reality are not well documented.

The federal act does suggest a number of areas in which private sector assistance should be sought, however. These include involvement in (1) planning vocational education programs that are congruent with the present and future employment needs of the states, (2) assessing the effects of technological changes on job skill needs, (3) evaluating the quality of ongoing vocational and technical education programs, and (4) identifying the knowledge and skills needed for entry, retention, and advancement in the occupational areas being taught.

Although increased private sector involvement in vocational and technical education is generally deemed desirable by both industrialists (Elliman 1983) and vocational educators (Maurice 1984), it is not known to what extent such involvement on a large scale is feasible or what accommodations are needed, given the major differences in the objectives of the two groups. Further investigation of the views of persons representing the private sector is necessary before definite conclusions can be drawn about

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their potential role in planning and conducting vocational and technical education programs.

Although cooperation and collaboration is desirable, little is known about the extent to which it occurs and how to increase it. An analysis of private sector trade associations should identify what kinds of activities can be carried out in support of vocational education planning and programming. Further, given the different structures of public and private sector institutions, it is important to know what linkages are most feasible and practicable. Within the linkages, there should also be some analysis of the role of the respective representatives of each institution regarding the operational aspects of a given activity. Facilitators and inhibitors that influence the success of activities should likewise be addressed. In that private sector trade associations are close to the workplace, it is necessary to determine whether information concerning labor market projections and the effect of changing technology are assembled and whether this information is in a useful form for vocational education planners.

Purpose and Objectives

The purpose of this project was to study one very important segment of the private sector, the group known as employer-based trade associations. Trade associations represent one of the private sector components specifically referenced in the Perkins Act. The fact that employer-based trade associations are made up of groups of employers with common business and industrial interests makes them a logical potential collaborator with vocational education, because vocational educators train many of their new employees and retrain and upgrade many of their present employees.

In addition to the logical connections between vocational education and trade associations already mentioned, there are several other reasons for an investigation of how these associations may help improve vocational education programs. At the local and state level, there is a long history of involvement of persons either representing trade associations or having membership in such associations. Many of these persons have served on advisory committees and on local and state advisory councils. It is questionable whether these individuals and the trade associations they represent have been utilized effectively. With proper planning and coordination, linkages could be expanded and refined to include more mutually beneficial activities, provide useful information about labor market projections, and the effects of changing technology.

This study examined the experiences and perceptions of trade association representatives who have some history of assistance to vocational education as a means of gaining further insight about future cooperation between trade associations and vocational education.

The objectives and related questions of the study were as follows:

- To identify ways to improve vocational education planning and programming through greater involvement of trade associations other than as suppliers of labor market information.
- To determine if national or state trade associations are likely sources of labor market information that is useful for vocational education planning.

Scope and Limitations

Several factors influenced the approach and methods employed in this study. Each of these will be described briefly.

The respondent population consisted of trade association representatives only. There was no effort to determine whether vocational education personnel were in agreement with what trade associations claimed they did for them and with what results.

The study was limited to employer trade associations. Selection of respondents was guided by the definition of trade association by the late C. Jay Judson, Chief of the Trade Association Division, the U.S. Department of Commerce, from 1930-63: "a nonprofit, cooperative, voluntarily-joined organization of business competitors designed to assist its members and its industry in dealing with mutual business problems in several of the following areas: accounting practice, business ethics, commercial and industrial research, standardization, statistics, trade promotion, and relations with Government, employees and the general public" (National Trade & Professional Associations of the United States 1986). Therefore, the study did not include other somewhat similar organizations such as labor unions, professional, scientific, technical organizations, and learned societies.

The respondent samples were association-designated representatives from 5 national associations and 53 state associations. In the latter group, an original target of 45 state associations was exceeded to offset the difficulty of getting responses to some questions. The small size of these samples from a population of thousands of associations precluded the possibility of statistical significance. The study findings are, therefore, not generalizable in any formal sense.

Data gathering techniques involved in-depth on-site interviews with representatives of the national associations and an examination of relevant documents. By contrast, the representatives of the state associations were queried by telephone only and supporting documents were not generally available for the project staff.

Approach and Methods

To address this problem, study activities focused on multiple data-gathering methods. The approach called for selecting national-level employer trade associations for in-depth on-site case study visits and state-level trade associations representing employer members for telephone case study interviews. A review of related literature undergirded the approaches, methods, procedures, and criteria development.

Criteria and Procedures for Selecting Five National Associations

Criteria for selecting the national trade associations were derived through an exploratory substantive analysis session (SAS) group meeting (composed of internal research staff of the National Center), interaction with the board of directors of the state directors of vocational education and a review of pertinent literature. Within the stated scope of the study, both groups generally agreed that data should be obtained from associations of significant size, represent industries where complex training needs exist and industries that had some experience working with public vocational education.

As a follow-up to receiving SAS group and state director of vocational education inputs, an analysis of assembled literature was consulted to identify employment trends and technological changes in various sectorial areas of the economy and national data on vocational education programs. This information was used to refine the criteria and identify some national trade associations for potential inclusion in the study. The criteria used to select the national level trade associations included the following:

- Industries that employ significant members of persons in a variety of specialities who have participated in vocational education at the secondary and/or postsecondary levels of public education.
- Evidence of interaction with public secondary and/or postsecondary vocational education, through contributions to planning and programming and/or provision of information about labor market and technological change.
- An identifiable mission component relating to education and training.

- Far West: California

- South: Texas, Arkansas, Louisiana

- Southeast: Georgia, Alabama

As contacts were made, it became evident that trade associations in more states needed to be contacted to achieve a greater spread of occupational sectors. Therefore, contacts were also made with associations in North Carolina and South Carolina. A total of 53 state associations were contacted representing 12 states.

On-Site Case Study Methods and Procedures

The case study methods and procedures involved developing instruments, interview procedures, and conducting the on-site case study interviews with the five national level trade associations noted earlier.

Instrument development. Two instruments were used to guide the five national case study interviews. One instrument (see appendix C) was designed to collect information about the planning and programming activities of trade associations. Another instrument (see appendix D) was developed for information about labor market/changing technology. Preliminary draft instruments were developed and tested with a representative of a state trade association. Several suggestions were received and incorporated. The refined instrument was reviewed by two senior research specialists at the National Center who were experienced in conducting case studies. Additional refinements in the instruments were made.

Interview procedures. Preparations for national case study interviews started with a telephone call to gain permission for the association to participate. An informal discussion of interview requirements, procedures, and tentative dates also occurred during this conversation. Following the telephone calls, an Interview Guide and Directions was mailed to each participating association (see appendix E).

Two senior researchers assigned to the project staff conducted the on-site case studies of national-level trade associations. An orientation meeting was held to ensure that they both used common procedures and the gathering of similar kinds of information. One senior research specialist conducted two of the national level trade association case studies and the other one conducted three of them.

Conducting the case study interviews. Each of the case study interviews required most of 1 work day at each site. The two interview instruments were used to focus the interview, along with two specially prepared grids, which provided an overview of the

- Prominence in power and influence--either directly or indirectly related to vocational education.

- Representation of a breadth of skill and occupational categories below college level.

- Employment of significant numbers of persons who have enrolled in public school secondary and/or postsecondary vocational programs.

In addition, further consideration was given to achieving a geographic spread in the selection of state trade associations. An effort was made to identify four geographic areas having such features as the following:

- Evidence that trade associations contribute to public school secondary and/or postsecondary vocational education through planning and programming and/or provision of labor market information

- Active economic activity within and among sectors

- Evidence of significant change in various industries

- Large enrollments in public school secondary and postsecondary vocational education

Selection of state trade associations. The state director of vocational education in each state was contacted by letter (see appendix A) and asked to provide information on trade associations that had worked with vocational education in their respective states. Also, a project profile was sent to the state directors (see appendix B). A total of 23 directors reported a total of 494 linkages with associations. Some were not employer trade associations. This information, along with various state association directories provided a pool of candidate state-level trade associations.

The criteria described above were applied to the pool of candidate state-level associations for purposes of identifying an appropriate geographic spread and identifying associations to be contacted in the various occupational sectors. The geographically representative states selected for inclusion were the following:

- Northeast: New York, Massachusetts

- North-Central: Iowa, Nebraska

postsecondary vocational education. An article in the Centergram (a monthly publication produced at no cost to the sponsor, see appendix H), called attention to the study and yielded a few telephone calls that provided a small amount of information on vocational education-trade association linkages. Some calls inquired about the study and how to get ideas for planned efforts to involve trade associations more closely with vocational education. The general paucity of information further verified the premise that the subject of trade association-vocational education linkages is largely unexplored and undocumented.

Data Compilation and Analysis

The procedures and methods for compilation and analysis of case studies and telephone interviews are described below.

Case study reports. The interviewer used the case study interview guide as a framework for compiling information from the recorded interviews. This same framework provided the basis for an outline for the case study reports. Drafts for each of the five case studies were prepared and sent to the interviewees for reactions and approval. The national case studies were analyzed through an examination of similarities and differences within clusters of related responses in the case study reports.

Telephone survey data tabulation. Information from the recorded telephone interviews of state trade associations was recorded on interview forms. Like the national case studies, the telephone interview information was analyzed to determine similarities and differences within the related clusters of responses.

Procedures for analysis, conclusions, and recommendations. The findings from all the data collection sources were examined and analyzed carefully to reach the reported conclusions and recommendations. This task proved to be challenging because of the breadth and diversity of reported trade association linkage activities with vocational education. Special effort was made to capture the breadth and diversity through several meetings of project staff.

Organization of the Report

The remaining sections of Part 1 of this report contain the principal findings, conclusions and recommendations which resulted from the combined information obtained from on-site visits to five national trade associations, and the telephone interviews with 53 state trade associations. Part 2 contains the individual case study reports of the five national associations. The appendices consist of data collection instruments and other materials associated with the conduct of the study.

information needed (see appendix F and G). The interviews were recorded in order to preserve the details and to permit the interviewer to focus upon questioning.

State Association Telephone Interview Methods and Procedures

Procedures for the telephone interviews reflected a desire to collect the same categories of information as in the national case studies but recognized that limitations would occur because of lack of time and lack of face-to-face communicating.

Instrument development. The same instruments were used during the national case studies, with the exception that objective response items were put into the instruments to facilitate responses during a shorter interview.

Telephone interview procedures. Four different individuals were involved in conducting the telephone interviews. An orientation meeting of telephone interviewers was held to ensure that all understood the instrument and the objectives of the study. Also, the best way to communicate with the interviewee regarding the study was explored and discussed with interviewers. Frequent short meetings were held to compare and share telephone interview experiences. This enabled the interviewers to develop consistent telephone interview techniques and strategies.

Conducting the telephone interviews. Those to be interviewed via telephone were contacted to establish a mutually convenient time for the interview, which ranged from 30-45 minutes in length. Interviewees were asked permission to record the conversation on a tape recorder. None refused. In some cases, the association provided printed materials to supplement the interview. Also, follow-up calls were made to a few associations when more information was needed.

Literature Search

A comprehensive search was undertaken to identify research and related materials pertaining to vocational education-trade association linkages. Computer searches of several databases and manual searches in the libraries of the National Center for Research in Vocational Education, The Ohio State University, and the Columbus metropolitan area provided only a small amount of relevant information. A visit to the American Society of Association Executives headquarters and consultations and a visit to its library provided much insight into the trade association movement, but little that specifically related to vocational education-trade association linkages. Case study visits to the five national associations provided a large number of samples and descriptive materials associated with the activities of those particular associations in relation to public secondary and

FINDINGS

This chapter has two sections, each focused upon one of the study's main objectives. The first section examines the nature of involvement of national and state trade associations in vocational education planning and programming. The second section presents findings relating to the presence of labor market information with trade associations and its availability and usefulness to vocational education planners.

Planning and Programming Activities

Five elements provide the framework for the findings in this section:

- Current operational activities conducted by trade associations in support of vocational education planning and programming and future prospects for activities.
- Present and prospective interinstitutional linkages between trade associations and vocational education programs regarding the initiation of cooperative and collaborative arrangements.
- Current and prospective practices for the planning and operational phases of activities.
- Benefits to vocational education that have and should accrue from trade association activities.
- Facilitators and barriers that influence planning, conduct, and outcomes of trade association-sponsored activities.

Types of Activities

Trade association representatives were asked to name activities with which their organization had been involved, or were currently involved, to improve the planning and/or operation of vocational education in public high schools and postsecondary

Differences were noted between national and state associations. Nationals were most active in curriculum and instruction, whereas states were most prominent in giving donations for various kinds of purposes. More broadly, no overlap occurred in the top half of activity preferences of national and state associations. The only agreement in rank was promotion and legislation. This could be misleading in that some association efforts of this latter type may not have been considered as an activity. Or it may be that association members are involved in this type of activity outside of the regular association agenda.

Within the two groups, state associations divided their efforts more evenly among the six types of activity than did nationals. State association behavior may reflect their closer proximity to state and local educational operations, thus dividing their efforts more evenly across the activity types. Nationals, on the other hand, are likely concentrating more heavily on fewer activities with relatively minor emphasis on others. The more in-depth look at the five nationals revealed this. For example, all five are heavily engaged in educational materials development and distribution, to the extent of being vendors of those materials. Those operations are quite extensive and therefore probably account for a larger proportion of total effort than would be the case with state associations.

Potential for future activities. Both national and state associations were queried about the general prospect of whether their planning and programming activities will increase, decrease, or remain about the same. Table 2 contains the responses to this question from 5 national and 35 state associations. The nationals were slightly more optimistic about increasing their efforts than states, although a fairly even division between increasing and decreasing was noted.

Table 2
FUTURE POTENTIAL OF TRADE ASSOCIATIONS FOR PLANNING AND PROGRAMMING ACTIVITIES

Trend	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Increase	3	60	16	46
Remain the same	2	40	18	51
Decrease	0	--	1	3
TOTAL	5	100	35	100

Based upon the interviews with the five national associations, the increase-decrease equation depends upon some combination of interest and resources. In each case there is an abiding interest to influence secondary and postsecondary vocational programs to reflect their industry's training needs. Likewise, opportunities exist for these associations to exert this influence largely on a cost-recovery basis rather than as an outright gift. Therefore, increased influence through larger efforts is possible without dependence upon the association's member dues and other income. State associations, from the limited view of this study, are less likely to have cost-recovery activities. Although their interest to support vocational education may be quite high, their decisions to increase activities are likely to compete with other priorities for member dues income.

Initiating Planning and Programming Activities

The natural dissimilarities of trade associations and public education systems gave rise to an interest in looking at how they initiate joint activities through some kind of interinstitutional linkage. Although effective linkages are important to all stages of an activity, the initiation stage seemed especially critical because new linkages are more likely to fail. Six questions were posed around the issue of activity initiation, three dealing with linkages already in place and three more that inquire about the future prospects for linkages.

Past/present activities initiation. The first question was who initiated activities. The responses clustered around the three sources indicated in table 3. According to table 3, national trade associations are most likely to initiate activities with vocational education. The situation is quite different for state associations whose activities originate much more evenly from the three sources. Reflecting upon the interviews with

Table 3
INITIATING SOURCES OF
PLANNING AND PROGRAMMING ACTIVITIES

	National Associations		State Associations	
Initiating Source	Frequency	Percent	Frequency	Percent
Trade association	29	88	19	50
Joint initiation	3	9	13	16
Vocational education	1	3	6	34
TOTAL	33	100	38	100

national associations, it would seem that these associations have established capacities to initiate planning and programming activities. State associations have less capacity for initiating activities and, therefore, may be more inclined to respond to vocational education-initiated activities.

The second question, closely related, inquired as to why activities were initiated. National associations responses in table 4 show a fairly even division between requests from the trade association and joint vocational education-trade association requests. Considering the combined results of tables 3 and 4, it would seem that although national associations assume nearly all of the responsibility for initiating activities, nearly one-half of those activities have originated from some kind of joint requesting arrangement with vocational education. State association responses showed a high degree of alignment between who requested in table 4 and who initiated in table 3, indicating that the requesting source also initiated the activity.

Table 4
REASONS FOR INITIATING
PLANNING AND PROGRAMMING ACTIVITIES

Reason	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Requested by trade association	17	52	16	49
Requested jointly by vocational education and trade association	14	42	5	14
Requested by vocational education	2	6	13	37
TOTAL	33	100	34	100

Table 5 addresses who in the trade association is the key linker responsible for approving planning and programming activities. National associations indicated a higher degree of reliance upon a key official who, in most cases, directs a department or office within the association that in turn has most if not all of the responsibility for educational activities. Such entities usually operate within a policy and budget framework

Table 5
RESPONSIBILITY FOR APPROVING PLANNING AND PROGRAMMING ACTIVITIES IN TRADE ASSOCIATIONS

Approving Authority	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Key official	17	52	9	22.5
Board of Directors	14	42	19	47.5
Association member	2	6	10	25
Situation specific	0	--	2	5
TOTAL	33	100	40	100

established by the board of directors. State associations, as smaller organizations, show a greater division of responsibility among key officials, a board of directors, or an association member.

Future activities initiation. Turning to future potential linkages, table 6 depicts the responses to the question about the desired sources of activity initiation. National trade associations continued their high preference for the trade association, but slightly less than what is presently practiced as shown in table 3. State associations indicated a majority preference for vocational education to initiate future activities, more so than indicated by present practice as shown in table 3. The divergence between national and state association preference for trade association initiation is even wider as a preference in table 6 than in present practice in table 3. This again could be reflective of the differing organizational structures and capacities between national and state trade associations. Nationals have more formal systems for education and training ventures, and activity initiation is more firmly established within these systems. State associations have less capacity for initiating activities, and the expected continuation of that arrangement encourages a preference for vocational education to be the more active initiator of activities.

Table 6
DESIRED SOURCES OF INITIATION FOR PLANNING AND PROGRAMMING ACTIVITIES

Desired Initiating Source	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Trade association	4	80	2	6.5
Either trade association or vocational education	1	20	0	--
Vocational education	0	--	17	57
Joint initiation	0	--	2	6.5
As desired by trade association	0	--	9	30
TOTAL	5	100	30	100

In table 7, national association respondents all preferred that assigned responsibility for linkages with vocational education be centered within a specially designated department. This could be reflective of prevailing structures within national associations, many of which put some or all education-related activities on a cost-recovery basis, therefore making it more financially independent from regular association operations. Heads of these special departments are therefore more accountable,

Table 7
PREFERRED ASSIGNMENT OF RESPONSIBILITY IN TRADE ASSOCIATION FOR LINKAGES TO VOCATIONAL EDUCATION

Assignment of Responsibility	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Board of directors/executive committee	0	--	2	7.5
Chief executive officer	0	--	21	81
Specially designated department or office	5	100	0	--
Association members	0	--	3	11.5
TOTAL	5	100	26	100

thus justifying greater assumption of responsibility. State associations showed a majority preference for the association chief executive officer as the person most responsible for linkages to vocational education. Again, this probably reflects smaller organizations with decisions much more often resting with one or two persons.

Table 8 looks at the vocational education end of the linkage as viewed by national and state trade association respondents. The national associations indicated more preference for linkages at the local level, whereas state associations tended toward state level linkages. Several factors probably contribute to this situation. National associations select activities that for the most part have nationwide application and which avoid the differences of individual states. Their target therefore is more often the local level. Likewise, many of their educational products and services are on a sale basis, and the market would be almost totally at the local level. State associations on the other hand serve the same geographical jurisdiction as state departments of education, and their activities are more likely to address statewide concerns.

Table 8
PREFERRED ASSIGNMENT OF RESPONSIBILITY
IN VOCATIONAL EDUCATION FOR LINKAGES TO TRADE ASSOCIATIONS

Assignment of Responsibility	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Combined state and local levels of education	2	40	6	18
Local level of education	2	40	7	20
State level of education or office	1	20	21	62
TOTAL	5	100	34	100

Planning Activities

Perspectives of trade association representatives were gathered regarding who leads the planning of existing linkages with vocational education and what planning steps were taken by trade associations as well as vocational education.

Sources of planning. Table 9 displays very different patterns of planning leadership by national and state trade associations. Nationals appear to be very centralized in the sense that most planning leadership resides in the association headquarters. State associations are very decentralized with nearly half of planning leadership in the charge of individual association members.

Table 9
SOURCES OF PLANNING LEADERSHIP FOR PLANNING AND PROGRAMMING ACTIVITIES

Source of Leadership	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Trade association committee/ staff	24	73	3	7
Joint committee	7	21	5	13
Vocational education committee	1	3	5	13
Vocational education individual	1	3	7	18
Association individual	0	--	19	49
TOTAL	33	100	39	100

Planning steps. The responses of both national and state trade associations to planning and procedures used for linkages with vocational education varied considerably. Planning and procedures ranged from very informal and flexible to highly developed, formal, and structured approaches. Most state trade associations reported informal and flexible planning procedures were used (e.g., met with vocational teachers and gave them ideas on what could be done, left planning and procedures open to schools' judgment, influenced by state department educational coordinator who influences the trade association and the cooperative activity consultation from university staff).

The more structured and formal planning steps of linkages involved outlining such actions by the state vocational education advisory council, holding meetings with various other officially appointed public sector groups (e.g., Governor's Planning Commission Board for Education), and having trade association members on joint committees (industry-education) to establish goals, structure, and procedures. In these instances, state trade associations acknowledged the need to sell (or help sell) the hierarchy on the linkage activity and to meet formally with involved people to get the activity in place.

The five national associations did their planning in a more highly structured way than did state associations. In most cases, a key association official was in charge, assisted by other association staff. These persons identified a committee or group of association members who have expertise regarding the activity at hand. External educational consultants were called in as needed, and there are cases where consultants are on a retainer from the association for a continuing, but usually part-time, relationship. This combination of central staff and committee typically oversaw a particular activity to its completion, at least in an advisory capacity.

Conducting Activities

Who assumed responsibility for conducting planning and programming activities is summarized in table 10. Quite different patterns occurred for conduct than was true in planning as shown in table 9. In the case of nationals, although planning was centralized, over half of the conduct was shared with vocational education. One influence here was a sponsor-client relationship, whereby the association led the design and development of an activity, and vocational education used it, either free of cost or in many cases for a fee for services or purchase of materials.

Table 10
RESPONSIBILITY FOR CONDUCTING PLANNING AND PROGRAMMING ACTIVITIES

Responsible Group	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Joint vocational education and trade association	20	61	8	22
Association representatives	13	39	16	43
Vocational education representative	0	--	13	35
TOTAL	33	100	37	100

State association-conducted activities were quite different. Here association representatives continued to be about as prominent during conduct as they had been during planning (table 9). These persons frequently were individual members of associations who worked, planned, and conducted activities, either through their own initiation or from a request by vocational education personnel. Their activities included serving as resource persons and providing materials to schools and other similar events. Vocational education representatives also were active in conducting activities. This occured when the association awarded a donation of some kind that vocational education actually implemented operationally.

Providing Resources

Trade associations were asked about the resources they provided to conduct past/present linkage activities with vocational education. They were also asked to speculate about the future.

Past/present resources. Table 11 indicates what sources of funds were employed for planning and programming activities. National associations relied upon a joint funding arrangement for a higher percentage of activities than did state associations. In many cases, national associations produced something that vocational education purchased. State association-sponsored activities were more frequently in the form of donations to vocational education.

Future resources. Trade association representatives were asked what future sources of support should exist. This prompted five categories of response.

Table 11
SOURCES OF FUNDS FOR PLANNING AND PROGRAMMING ACTIVITIES

Source of Funding	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Joint vocational education and trade association	20	61	6	18
Trade association	13	39	22	64
Vocational education	0	--	4	12
Third party sources	0	--	2	6
TOTAL	33	100	34	100

The most frequent response was that trade associations should solely fund special linkage programs that relate specifically to their activities (e.g., visits from representatives, curriculum materials packets, scholarship and trust funds, their instructors, association literature) and that they be given recognition for their contributions. The second most frequent response was for funding to be on a 50-50 basis or jointly funded with the split being based upon the length and scope of the activity. Third, several expressed the view that funding should be provided by the state or federal government, especially when the linkage activity involved training dropouts and displaced workers. A fourth and lesser number felt their support should involve identifying labor market information for planning vocational education. The least number of trade association representatives indicated they had little idea of the future kind of funding and resources they could or should provide. However, most felt some funding might be provided to support linkages with vocational education or that their role should be more one of coordinating such activities rather than providing funding.

The flip side of the question (e.g., What kind of funds and resources should be provided by vocational education?) was explored with trade association representatives. The majority expressed the belief that the state and federal governments should fund the bulk of linkage activities, especially basic curriculum courses, and that trade associations should provide funding for awards, scholarships, guest speakers, association instructors, and the like. A few trade association representatives indicated that vocational education should jointly fund and provide incentives to build linkages with trade associations. A few trade association representatives thought a response regarding the kinds of resources and funding that vocational education should be expected to contribute in the future needed more study and reinforced follow-up.

Primary Audiences for Activities

Both national and state trade associations focus most planning and programming activities upon vocational education students, as indicated in table 12. Vocational education teachers are the primary audience for less activities by both national and state associations. Very few activities are focused directly upon vocational education administrators or upon the total school or college.

Table 12
PRIMARY AUDIENCES FOR
PLANNING AND PROGRAMMING ACTIVITIES

Audience	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Vocational education students	19	58	36	63
Vocational education teachers	11	33	19	33
Vocational education administrators	3	9	1	2
Entire school or college	0	--	1	2
TOTAL	33	100	57	100

Benefits of Activities

The benefits resulting from planning and programming activities was also a subject of inquiry in this study. Two dimensions were included: the perceived benefits of what has or is now occurring and what future benefits should be sought through trade association linkages with vocational education programs. With both dimensions, respondents were asked to indicate what benefits should accrue to trade associations as well as to vocational education.

Past/present benefits. The perceived benefits of planning programming activities to trade associations is given in table 13. National associations attached more importance to having better employees than did state associations. The value of good publicity was viewed more favorably by state associations than nationals. Influence to vocational education programs was considered less beneficial, but it may have been how some respondents indirectly responded to having better employees. That is, by influencing vocational education, better employees would likely result.

Table 13
BENEFITS OF PLANNING AND
PROGRAMMING ACTIVITIES TO TRADE ASSOCIATIONS

Benefit	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Better employees for member companies	16	49	14	34
Good publicity	12	36	21	51
Influenced vocational education programs	5	15	6	15
TOTAL	33	100	41	100

Trade association respondent perceptions about benefits to vocational education are presented in table 14. Again, the patterns of nationals are somewhat in contrast to those of state association respondents. Instructional materials and technical advice are more in agreement between the two groups as important benefits. State associations viewed financial assistance as slightly more beneficial, probably because of the emphasis upon donations for prizes, scholarships, and other items that claim much of the state association's assistance agenda.

Table 14
BENEFITS OF PLANNING AND PROGRAMMING ACTIVITIES TO VOCATIONAL EDUCATION

Benefit	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Instructional materials	9	27	14	19
Technical advice	8	25	12	17
Public visibility	5	15	2	3
Student placement assistance	4	12	7	10
Financial assistance	3	9	17	23
Technical instruction	2	6	12	16
Equipment	1	3	7	10
Increased enrollment	1	3	1	1
Use of buildings	0	--	1	1
TOTAL	33	100	73	100

Future benefits. The trade association respondents offered several suggestions regarding the future benefits to vocational education and trade associations as attempts are made to develop linkage activities. The most beneficial features of linkages for vocational education were suggested to be joint efforts for improving programs, serving the skill and career development needs of students, and supporting legislative initiatives.

The joint activities were seen as providing avenues for vocational education and trade association representatives to work more closely on vocational education program planning and development. Future contributions of trade associations in joint planning and development included involving more of their members, lending business expertise, using industry experience and contacts, recognizing schools who participate in specific industry certification processes, using association processes and procedures as role models, and generally helping vocational education upgrade programs to meet more appropriately marketplace needs (e.g., investing in a film library and videotapes for training). Providing help in the continuing education of vocational teachers and keeping them interested and informed of industry changes was another important joint activity connected with program planning and development.

The future benefits to vocational education students were suggested to be possible through the trade association's assistance in providing career direction, more rewards, scholarships, and recognition for students, hosting students at different events; obtaining realistic interviews to provide real-world perspectives and expectations; placing students in jobs, and the like.

A lesser number of respondents suggested that their contributions to linkages should embody the promotion of vocational education and industry. Promotion was suggested to involve working together on state and federal legislation of mutual interest.

The perceived benefits to trade associations accruing from trade association involvement were increased interest by their members and the potential of a linkage activity taking little ideas and turning them into business- or industry-wide ideas. Other benefits to trade associations goals, resulting from linkage with vocational education, included creating an interest among young people to become involved with various industries, encouraging students to enroll in a trade or occupational area represented by the trade association, and creating a positive image of its members as potential employers.

The need to teach vocational education personnel how they should relate to business in investigating new ideas and programs was viewed as important for the development of more responsive vocational education programs. One respondent suggested that vocational education programs should be job driven and not teacher driven. In the same vein, a suggested beneficial activity was for a more direct relationship to be established for qualified vocational education personnel to spend more time with private business and industry in developing linkages. Trade association representatives generally felt this would assist in standardizing curriculum, training individuals for specific trades/occupations, identifying better quality products, helping students receive practical on-the-job training, and implementing linkage activities for providing appropriately developed youth, which are the life-blood of future business and industry.

Facilitators of Activities

Trade association representatives were asked what factors or conditions facilitated the conduct of the linkage activity in which they were involved with vocational education. Table 15 indicates that the excellent cooperation of vocational education personnel was cited most frequently by both national and state association respondents. This was qualified to mean that vocational education expressed an interest in broadening the

Table 15
FACILITATORS OF PLANNING AND PROGRAMMING ACTIVITIES

Type of Facilitator	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Cooperation between trade association and vocational education	21	64	20	56
Vocational education--a good source for employees	7	21	8	22
Adequate funding and support	5	15	3	8
Positive student response	0	--	5	14
TOTAL	33	100	36	100

interaction with the private sector and exhibited a positive, agreeable, and accommodating attitude. Nearly as many trade association representatives reported simply "because we wanted to be more involved actively with vocational education and asked to participate in a linkage activity." Others attributed the facilitation to vocational education students entering and completing a scholarship program offered through the trade association; interest in motivating and interesting students to become good and reliable workers, satisfying an identified shortage of workers in the business and industry; increase in state funding and the availability of state funds to back the linkage venture; and experience in hiring well-trained vocational education students.

Inhibitors of Activities

Trade association respondents provided their insights regarding the inhibitors to establishing past, present and future linkage activities with vocational education.

Past and present inhibitors. The responses of national and state trade associations were grouped into eight inhibitor categories in table 16. Nationals viewed time and money as the greatest inhibitor. Time was likely related to the complexity of some activities and to the fact that a fair amount of work was done through the voluntary efforts of busy association members. Funding restrictions by nationals fell into two categories. Those activities that are funded from the regular association funds depend upon member support for their continuance and growth. Other activities that depend upon client purchase are dependent upon increased interest and response by vocational education personnel.

Table 16
INHIBITORS TO PLANNING AND PROGRAMMING ACTIVITIES

Type of Inhibitor	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Time and money	14	41	4	13
Effort short of need	6	17	6	20
No special inhibitors	4	12	2	7
Incompatibility between trade association and vocational education	3	9	16	53
Complexity of activity	3	9	2	7
Frequent revision required	2	6	0	--
Trade association members doubt value of activity	1	3	0	--
Turnover of people involved	1	3	0	--
TOTAL	34	100	30	100

Incompatability between trade associations and vocational education was viewed as the most important inhibitor by state associations. A variety of reasons indicative of goal conflicts and other constraints were cited as reasons. The rather striking difference between national and state associations on the matter of incompatability is probably a reflection of their different organizational arrangements and linkages to vocational education. National associations are more likely to identify and initiate an activity that vocational education chooses to accept or reject. State association activities evolve from linkages that call for more direct interaction and bring to notice any philosophical differences that may exist.

Likely future constraints. Table 17 indicates that the most likely inhibitor in the future will be cost, as viewed by both national and state associations. This could be related to the general rising financial pressure in organizations such as trade associations. Many would hold that future success of the trade association-vocational education partnership hinges upon the extent to which vocational education can pay more of the bill for services rendered by trade associations. A higher proportion of national associations saw no constraints to their future efforts, probably because the cost partnership exists through vocational-education-client-paid memberships in the association and through institutional purchases of trade association generated instructional materials and training services. State associations probably expect to fund activities more from dues income, which is subject to increasing constraints.

Table 17
PERCEIVED FUTURE ORGANIZATIONAL INHIBITORS TO PLANNING AND PROGRAMMING ACTIVITIES

Inhibitor	National Associations		State Associations	
	Frequency	Percent	Frequency	Percent
Cost	3	43	19	49
No constraints	2	28	3	8
Expertise	1	14.5	4	10
Time	1	14.5	13	33
TOTAL	7	100	39	100

Labor Market/Changing Technology Activities

The second objective of this study was to determine if national or state trade associations are likely sources of useful labor market information for vocational education planning and programming. Three kinds of information formed the basis for this inquiry:

- Employment demand for new and emerging jobs
- Potential shortage of skilled labor in existing jobs
- Effect of changing technology on type of job skill needed

This section of the report elaborates upon what was found regarding whether trade associations collect such information, how it is collected, how often it is updated, whether the information is available and used by vocational education, and what the future likelihood of supplying such information might be. A concluding part of this section addresses future special arrangements and constraints for collecting and using labor market and changing technology data that emanate from trade associations.

Do Associations Collect Information?

Nearly one-fourth of the respondent state trade associations collected data on new and emerging jobs; they also collected data on the effects of changing technology with respect to the types of needed job skills. A slightly smaller number of trade associations collected data on potential shortages of skilled labor in existing jobs.

With few exceptions, the five national associations did not formally collect information on labor and the effects of changing technology. Job analysis efforts did occur as input to the preparation of training materials.

How Is Information Collected?

Of the state trade associations reporting that they collect labor market and changing technology data, the largest majority accomplished this through informal surveys and/or used secondary sources. A few of the trade associations conducted formal surveys and produced a report on their findings. The five national associations informally sensed changes in labor market requirements and technology through discussions at annual conferences, review of secondary data sources, and contact with futurists and persons within the industry.

How Often Is Information Updated

Most of those state trade associations that collected labor market information did so on a regular basis, but the frequencies varied from one time per year to monthly. The remainder collected information as needed or desired for particular reasons that may arise. The very few efforts reported by national associations revealed no particular pattern for collecting labor market information.

Is Information Made Available to Vocational and Technical Education?

A small number of state trade associations who collected labor market and changing technology data claimed to have made it available to vocational education. The biggest majority had not made such information available to vocational education or were uncertain about it. Those sharing the information with vocational education most often focused on demand for new and emerging jobs and the effects of changing technology on various types of job skills. The five national associations had virtually no occasion whereby information was shared with vocational education.

Is Information Used by Vocational and Technical Education?

Only a few state trade associations reported that vocational education used the labor market and changing technology data that they made available. The majority of trade associations either did not know or were uncertain.

What Is the Future Likelihood of Supplying Information?

The responses of state associations were not very conclusive. About one-half of those who responded indicated that some liklihood of supplying labor market information did exist. The remainder predicted little to no possibility for supplying such information. The five national associations did not foresee the likelihood of having national information to share. All five stressed the importance of locally relevant information and suggested that vocational education gather this information within their immediate vicinities.

What Special Arrangements Are Needed for the Future?

The state trade associations were somewhat reluctant to venture an answer to the special arrangements, if any, that were needed to ensure the future availability of their labor market and changing technology data collection for use by vocational education. A few of the trade associations indicated that such information needed to be requested by vocational education.

What Are the Constraints for the Future?

The state trade associations indicated the most prominent constraint to collecting and making labor market/changing technology data available to vocational education was the informal nature of the effort and the fact that written reports are often not developed. Also, the information to be shared would be quite rough and approximate. The major constraint on the future, according to the five national associations, was the limited value that should be placed on national figures when making decisions about local vocational education programs. There was little constraint with sharing, but there was little to share that is relevant.

CONCLUSIONS AND RECOMMENDATIONS

This study observed how groups of national and state employer-based trade associations presently support vocational education and sought their predictions about and perceptions of the future. Because the participating trade associations were selected partly on the basis of their present contributions, the results of this study are not generalizable to the total trade association community.

The utility of the results of this study are viewed more for insights that can be gained about such things as what kinds of activities are carried out by trade associations, what linkages and processes are utilized, what benefits were received by both partners, and what facilitators and inhibitors were noted. These insights can be utilized as benchmarks for further inquiry and discussion between the representatives of trade associations and vocational education as they search for stronger partnerships.

Conclusions

The following conclusions are based upon the combined results obtained from the study of five national and 53 state trade associations. Twelve conclusions relate to the past/present and future contributions of trade associations to secondary and postsecondary vocational education. Two conclusions pertain to the provision of information about labor market and changing technology.

Planning and Programming Activities

1. The national and state trade associations exhibited a wide range of activities in support of secondary and postsecondary vocational education.

2. Scope exists for increasing cooperative relationships between national and state trade associations and vocational education. The extent of this increase will depend upon more active involvement by vocational education.

3. Both the national and state associations were more active initiators of activities than was vocational education. Regarding the future, the national associations indicated a preference as initiators, whereas the state associations would prefer having vocational education do the initiating.

4. Major differences exist between the national and state associations regarding the institutional structure for activities. The nationals all have a special office or department that is responsible for all or nearly all of the association's educational interests. The state associations operate with a much more decentralized and informal structure.

5. The national associations prefer to have most of their primary linkages with the local level, whereas state associations would prefer a state-level linkage to vocational education.

6. Planning leadership was much more centralized in the five national associations than the state associations.

7. Funding sources and patterns vary considerably between national and state associations. Nationals mostly effect a partnership whereby they initiate and develop something that vocational education purchases and uses. State associations' activity funding is mostly through donations from association monies.

8. The primary audience for both national and state association-sponsored activities is vocational students.

9. National associations view better employees for their industry to be the chief benefit to the associations, whereas state associations indicated that good publicity about the industry was the major benefit.

10. National associations view instructional materials and technical advice to be most beneficial to vocational education, whereas state associations contended that financial assistance was most important.

11. Both national and state associations thought that the high quality of cooperation between themselves and vocational education was the major facilitator of activities.

12. Past and present inhibitors of activities varied between national associations who thought it was time and money and state associations who thought lack of interinstitutional compatability was the major inhibitor. Both groups were in agreement that the largest inhibitor in the future would be cost.

Labor Market/Changing Technology

1. National associations are not, and likely will not become, formal collectors of labor market information.

2. Both national and state associations hold that the local level is the appropriate place to access labor market conditions as an input to vocational education programming. Both groups support increased involvement by business and industry to conduct such analyses.

Recommendations

Although the results of this study are tentative, important insights have been gained that should provide future benchmarks to explore trade association-vocational education linkages. The five recommendations which follow are presented as guidelines for future study and action.

1. Further investigation into cases of successful and unsuccessful linkages, particularly between state associations and vocational education, should be conducted.

2. Assessments should be carried out regarding the relative satisfaction of vocational education clients to national and state association-produced educational materials and services and non user attitudes about such materials and services.

3. Explorations to improve labor market information availability at the local level should be conducted.

4. Meetings of trade association and vocational education representatives should be conducted to identify and develop guidelines and procedures for more effective linkages.

5. Ways and means should be developed for secondary and postsecondary vocational education-trade associations to market vocational education and enhance its image.

PART II

CASE STUDIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

The Associated General Contractors of America (AGC) was organized in 1918 in response to a request of President Woodrow Wilson. The association prides itself on being the full service construction association representing the needs of both open shop and collective bargaining contractors. It represents over 8,000 general contracting firms, 7,000 national associate members, and another 22,500 associate members.

Much of AGC's strength comes from its members' very active participation in the association's activities. Approximately 1,400 members serve on 70-plus AGC committees that deal with policies, publications and services, education and training, and legislative activities. A staff of about 100 persons is employed at its headquarters at Washington, D.C.

The AGC membership consists of 108 local chapters with representation in every state, Puerto Rico, and Washington, D.C. The officers and contractor members at the chapter level are free to establish much of their own local policies and activities. The basic policies of the association, however, are determined by its elected board of directors and its annual national convention and mid-year meeting.

The AGC asserts that it has been the leader and spokesperson for the construction industry for over 68 years. Its claim to being a full-service association is substantiated through a vast array of activities and services to members as well as others interested in the construction industry. Some of the major activities recently carried out include the following: (1) active participation in the political and legislative process; (2) the development and publication of an extensive assortment of instructional materials, contract forms and documents, books, manuals, and audiovisual materials; (3) weekly publication of a national newsletter; (4) monthly publication of a magazine for construction executives; (5) the conducting of continuing education programs for managers and supervisors; and (6) numerous public relations activities.

The AGC has given special attention to the educational needs of its members and to working with the vocational-technical education community. For example, the Manpower and Training Committee has been actively involved in the preparation of materials and programs for carpenters, bricklayers, cement masons, construction craftsworkers, millwrights, and heavy equipment operators and mechanics. The Construction Educational Committee publishes a quarterly bulletin and actively promotes continuing education programs for contractors. AGC student chapters are chartered on many college campuses. The four occupational divisions at the national level--Building, Highway, Heavy-Industrial, and Municipal-Utilities--are involved in many educational activities.

Activities Related to Vocational Education

AGC has been involved in many activities that are of direct benefit to persons planning and operating vocational and technical education programs in our public high schools, area vocational centers, and postsecondary colleges and technical institutes. Although some of the activities were developed by members to meet the needs of members, many activities and materials have been developed to meet the needs of both the industry and vocational and technical educators.

The fact that the association's membership is composed of both open shop and unionized contractors has probably made it easier to work extensively with the public education sector. The AGC; sincere interest and commitment to working harmoniously with vocational educators is impressive. The commitment exhibited is solidly reinforced by the human and other resources devoted to these activities. The involvement of AGC with vocational education is not only extensive but also has been long term. The Manpower and Training Committee develops a 5-year plan for their activities and is updated yearly. The AGC spokesperson indicated 30-40 percent of the total plan of activities involved working with vocational education in one way or another.

The major activities identified that have contributed significantly to the planning and operation of high-quality vocational and technical education programs include the following:

- Development of competency-based instructional materials
- Development of a careers in construction program
- Development of a supervisory training program (STP)
- Provision of training services for vocational instructors

- Support of Vocational Industrial Clubs of America (VICA)
- Coordination and cooperation with the American Vocational Association (AVA)
- Formation of a joint national committee of AGC contractor members and state directors of vocational education
- Service on vocational education advisory committees and councils
- Sponsorship of a vocational education recognition program
- Sponsorship of the outstanding vocational educator award
- Sponsorship of a scholarship program

Development of Competency-Based Instructional Materials

AGC began developing curricula for various construction craftworkers in 1972. In 1973, AGC's Manpower and Training Committee joined forces with the Oklahoma State Department of Vocational and Technical Education's Curriculum and Instructional Materials Center (CIMC) to develop instructional materials for the construction industry. That relationship continues to exist today; during the past 10 years, that effort has resulted in the development of competency-based instructional materials in the following areas: carpentry, bricklaying, cement masonry, construction craftsworkers, millwright, industrial mechanical maintenance, heavy equipment operator, and heavy equipment mechanic.

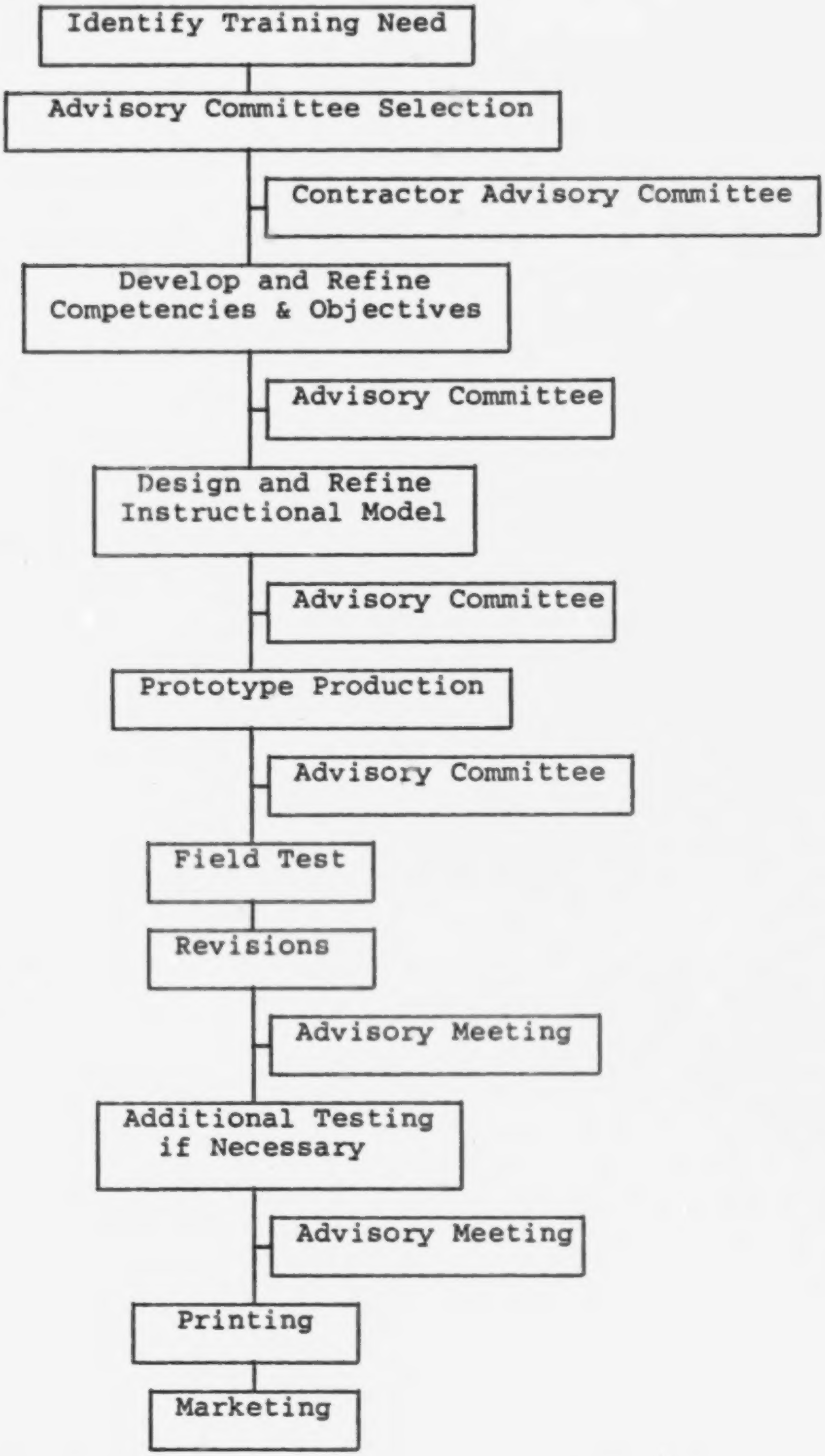
These materials are cooperatively developed so as to utilize the knowledge and experience of contractors in making sure the materials will meet the demands of today's construction industry. They also incorporate the latest concepts in instructional technology to ensure efficient and effective learning. Each unit of instruction contains the following components: cognitive and performance objectives, suggested teaching activities, information sheets, transparency masters, assignment sheets, job sheets, test questions on knowledge and performance objectives, answers to test and assignment sheets, and competency profiles. The competency profiles specify the specific job competencies that must be achieved and are used to record the progress of each trainee. The materials are color-coded and attractively packaged. they also adhere to the basic concepts underlying competency-based instructional programs, including the belief that all training should be time-varied rather than time-based.

Initiating the activity. The need to develop instructional materials originated from contractor members of AGC who expressed the belief that there was a lack of quality instructional materials for the various construction craft areas. In 1972, the Manpower and Training Committee, whose main function is to foster, promote, develop, and implement policies, procedures, and programs to train an adequate supply of workers, launched a major curriculum development effort. Approval for conducting this type of activity begins with the Manpower and Training Committee. Projects approved at that level are then submitted to the board of directors for approval.

Planning and conducting the activity. Leadership for the development of the competency-based materials is provided by the Manpower and Training Committee and AGC staff members. The committee members identify a priority area that needs instructional materials and develops a tentative plan of action that is submitted to the others mentioned for approval in order to proceed.

Once a decision to proceed has been made, a curriculum writer is assigned to do the job and task analysis work necessary to establish a solid research base for the curriculum development that is to follow. The developer then prepares draft training materials that are reviewed and critiqued by the staff and several craft instructors. Revisions are then made and the materials submitted to contractor advisory committee members for another review. Revisions are again made as deemed appropriate in preparation for field-testing the materials.

Once field-testing is completed, another revision is made and, if necessary, is followed by additional testing before printing and distribution of the materials. New products are usually produced over an 18 month development cycle that is necessary to develop a "guaranteed quality product." Revisions are scheduled every 4-5 years and require about 12 months of work. A graphic that illustrates the typical development cycle is presented as figure 1.



Developed under strict controls
for a guaranteed quality product.

Identify Training Need
Advisory Committee Selection
Contractor Advisory Committee
Develop and Refine Competencies & Objectives
Advisory Committee
Design and Refine Instructional Model
Advisory Committee
Prototype Production
Advisory Committee
Field Test
Revisions
Advisory Meeting
Additional Testing if Necessary
Advisory Meeting
Printing
Marketing

Figure 1. Sample developmental cycle for competency-based instructional materials.

In 1973, the AGC joined with the Oklahoma Curriculum and Instructional Materials Center (CIMC) to develop and publish the materials needed by the construction industry. The materials are developed with the help of contractors and an advisory committee composed of AGC contractors from across the country. The individual selected as a writer is either a journeyman, foreman, or a superintendent from the craft area.

The staff of CIMC are responsible for working with the writer and advisory committee to format the materials for publication. AGC contractor members review the materials in depth so as to ensure their technical accuracy and quality before publication and distribution.

Vocational educators participate in the development process by serving as product reviewers and by participating in the field testing effort. Most of the development work is carried out at the Oklahoma CIMC.

Funding for the development of the instructional materials comes from AGC. Staff indicated that the association has already spent well over one-half million dollars for materials developed alone, not including time, travel, and staff donated by contractor members. They feel that the process they use results in the production of the highest quality competency-based materials available anywhere for the construction industry.

The materials developed are intended for two primary audiences: the training programs offered to employees by the open shop and union contractors and the vocational students wanting to enter the construction trades.

Benefits of the activity. AGC feels the development of these high-quality instructional material(s) will result in better prepared graduates that will help the construction industry increase its productivity. Although they endeavor to recover printing costs through the sale of these materials, the main intent is to service the training needs of the industry.

Vocational education benefits by the availability of high-quality competency-based materials at a reasonable cost. The well-developed materials help the vocational instructors do a better job and result in their being able to produce more employable graduates. Students are often given credit for past experience and training when they enter industry training programs.

Facilitators and inhibitors of the activity. The expressed need for relevant, effective, and efficient training materials that contractors and vocational educators could use was an important facilitator. The low cost of these training materials to contractors and vocational educators also facilitates their wide usage. Another facilitator has been the strong and close working relationship established between AGC and CIMC.

The major inhibitor of this activity is the cost of developing and updating the materials. This need is so important, that the AGC staff and contractors will not let anything get in the way. Limited staff resources also act somewhat as an inhibitor of this activity.

Development of a Careers in Construction Program

In an effort to inform youth and adults about career opportunities in the construction industry, the AGC Construction Education Committee has worked jointly with the Manpower and Training Services section to product several publications. One of their publications is entitled "A Brochure Describing Career Opportunities for Men and Women in the Construction Industry." It is a 12-page, 3-color brochure describing 15 different positions available within the industry. It also describes three major avenues for successful entrance into the construction industry.

The Manpower and Training and Construction Education committees also published two 16-page booklets in 1981 entitled "Construction: Opportunities Unlimited" and "Construction: Apprenticeship Opportunities for Young Men and Women." The first booklet is designed for distribution in parts of the country where the open shop sector of the construction industry prevails. The second booklet is intended for distribution in areas where construction labor is mostly unionized. Both describe the apprenticeship system, some of the career options available, and an extensive listing of the AGC chapters and branches.

Also available free by anyone requesting them are a series of one-page career briefs on several construction industry jobs such as carpentry, bricklayer, and iron worker. Each brief describes the nature of the work, where the workers are typically employed, the training and other qualifications needed, plus opportunities for advancement and the employment outlook.

Two large construction career posters have also been produced on heavy paper stock for use at libraries, schools, and career fairs. A 16mm, 23-minute color film entitled "Construction . . . Building Your Future" depicts careers in the construction industry and a 59-slide, 10-minute carousal presentation based on the career film is also available.

Initiating the activity. The need for literature and other materials on careers in the construction industry is twofold. First of all, AGC is concerned about attracting enough high-caliber future workers into the industry to meet the demand, and second, the association receives numerous requests from teachers, librarians, counselors, and students for descriptive information.

This activity was initiated jointly by the Construction Education and Manpower and Training committees. Approval of this activity started with the Construction Education Committee and was followed by the approval of the board of directors.

Planning and conducting the activity. Leadership for planning and conducting this activity was provided by the Construction Education Committee and staff, with assistance being provided by the Manpower and Training Services staff. The Construction Education Committee often utilizes university educators to advise their committee on the nature and content of the materials needed.

Vocational educators get involved in this activity primarily as consumers and users of the materials that have been researched and developed by the AGC committee and staff. The association staff takes responsibility for the publication and distribution of the materials produced. Staff estimated that they respond to 8,000-10,000 requests for careers materials each year.

The financial resources for supporting this activity come from the association and to some extent from the AGC Education and Research Foundation. This financial support has made it possible to send packages of the career information materials to every state department of vocational education in the country.

The primary audience being served by these materials are junior high and high school students. The objective is to provide students with accurate and descriptive information about the various career options available in the construction industry. It is hoped that such information will serve to recruit the type of individual who will be successful in the industry. This career information activity has been ongoing for several years.

Benefits of the activity. It is hard to evaluate the true benefit of this type of activity, but based on the large number of requests received for this type of material, the association feels it is likely having a positive public relations effect as well as getting the word out regarding the many job opportunities available in the construction industry.

Benefits to vocational education include the availability of accurate descriptive information about careers that high school students can use in making their career choice.

Facilitators and inhibitors of the activity. One of the main facilitators is the large number of requests received each year from teachers, students, and local AGC chapters. This considerable demand makes it possible to develop the materials needed. The recruitment of workers and the positive public relations effect are also contributing to the conduct of this activity. The financial support provided by the Education and Research Foundation, facilitates carrying out this activity.

The primary inhibitor is the staff time required for the production and the distribution of the materials. Although these costs are significant, it is felt the benefits obtained far outweigh the costs involved.

Development of a Supervisory Training Program

The AGC Construction Education Committee has been involved with and concerned about supervisory training since the 1960s. The contractors and the committee recognized a need to update and increase the capabilities of superintendents, foremen, and other middle management construction personnel.

This need resulted in the development of the AGC Supervisory Training Program (STP). The program, designed specifically for construction superintendents, consists of ten 20-24 hour units on topics such as leadership and motivation and how to use contract documents. An 11th program consists of 20 2-hour sessions designed specifically for construction foremen. All 11 units went through a rigorous and systematic process of development and field testing.

The AGC Supervisory Training Program courses may be offered by local AGC chapters, an individual contractor or contractor group, labor unions, community colleges and vocational education schools, or superintendent of foremen groups. The Construction Education Committee chairperson indicated that over 50,000 individuals have participated in these programs and that participation in the programs can significantly increase the performance of those involved.

Initiating the activity. This activity began with requests from individual AGC chapters and contractors for a training program that would be suitable for upgrading the skills of middle management personnel and craftworkers who aspire to supervisory positions. The AGC Construction Education Committee decided to investigate the need for supervisory training and soon decided that they needed to find and develop such programs. It was found that many construction supervisors needed to upgrade their skills and that additional persons needed to be given training so that they could advance to supervisory roles. The AGC Education and Research Foundation funded the feasibility study that further confirmed the need for supervisory training and that such programs could be developed so as to be relevant to all types of contractors in all parts of the country.

Planning and conducting the activity. Leadership for planning this activity was provided by the Construction Education Committee. A questionnaire was sent to all AGC contractors to determine specific training needs and priorities. Many personal contacts were also made with contractors of all types and in all geographic areas to ascertain needs.

Once the needs had been carefully assessed, the AGC Education and Research Foundation formed a joint venture with Oregon State University's Construction Education and Research Foundation to fund, coordinate the development, and review the 11 STP units. Drafts of materials were prepared and submitted to members of the Construction Education Committee and selected other committees, as appropriate. For example, unit 7, which deals with project safety and loss prevention, was submitted to the AGC Safety Committees for review. Materials were also submitted to some individual contractors for their critique. After needed revisions were made, the training programs and materials were field-tested in various geographic areas. Feedback was obtained from the program instructors and trainees and was used to revise the materials. Some portions were field-tested and revised again, as necessary. Finally, the revised participant and instructor materials were printed and supportive audio-visual components developed for some units. Distribution of the supervisory training materials was turned over to the Bennett-McKnight Publishing Company, now a division of Macmillan Publishing. Vocational educators were not involved in the development of these materials.

The programs are implemented most often by the AGC chapters at the local level. Approximately 50 percent of the 108 chapters offer the program. The AGC Education and Research Foundation also offers a consulting service to prepare local trainers to conduct the program. The programs are available to any group who wishes to use them. Many 2-year community colleges are offering the training through their continuing education programs. The STP materials available include an instructor package, participant workbooks, and passout packages. Audio-visual materials are also available for some units. Learning activities include case studies, role playing, simulations, and critical incident situations.

Development of each unit took about 18 months and the revisions of these units is taking about the same amount of time. Each unit in the 10-course program takes about 20-25 hours of classroom training, whereas the foremen program requires about 40 hours.

Benefits of the activity. The association has benefited from this activity in several ways. Better trained supervisors has resulted in more effective supervision of many construction workers. The participants who complete the program are given certificates that recognize their achievement and contributions to the improvement of industry morale. A small royalty fee from the product sales also goes to the AGC Research and Education Foundation and Oregon State University's Construction Education Foundation.

Vocational educators benefit from the availability of the well-developed, managerial-level materials that have resulted in many vocational and technical education programs being offered beyond the craft training programs.

Facilitators and inhibitors of the activity. The strong support among contractors for this type of training program was a major facilitating factor. Many contractors wanted a program that would provide opportunities for their employees to advance within the industry.

Regarding inhibiting factors, the most important was the cost of developing, field-testing, and publishing these materials. Another inhibitor is the amount of work required at the local level to plan and conduct the STP program. Although the STP instructors should be trained to improve their ability to effectively conduct the program, the training is not required. The instructors should also be experienced industry people, but such experience is not required.

Revision of Training Services for Instructors

The AGC in addition to their development of competency-based instructional materials, also recognize a need to train instructors to use the materials and manage this new approach to instruction. A training program coordinator, who is housed at the Curriculum and Instructional Materials Center (CIMC) in Stillwater, Oklahoma, is available to provide technical assistance to AGC local chapters, member contractors, and vocational educators who want to develop an instructional program using the AGC/CIMC development materials.

Initiating the activity. The association identified the need for training assistance due to the fact that the competency-based materials and training programs are very different than a traditional textbook-oriented program. Requests for assistance in establishing an effective program using the new materials and new approach to instruction were received from many local chapters, contractors, and vocational educators.

Planning and conducting the activity. The Manpower and Training Committee gave leadership to planning this activity in conjunction with the Oklahoma CIMC. The training coordinator's position is jointly funded by the AGC and the CIMC. Approximately 50 percent of his time is spent helping to establish new programs wherever there is a need. When the coordinator is assisting vocational educators in Oklahoma, the Oklahoma State Department of Education pays his expenses. Whenever he travels outside of the state, however, the AGC association pays his bill. The coordinator is located in Oklahoma for two major reasons. The training materials are developed there and the coordinator is able to assist with the development and promotion effort when he is not on the road. And, Oklahoma is a fairly central location that enables him to more easily travel to any part of the United States where there is a need. Although the training coordinator cannot travel long distances to meet with one or two teachers, he will upon request, go almost anywhere to work with a group of vocational educators and/or local AGC chapters.

Benefits of the activity. AGC benefits from this activity in several ways. The instructional materials they have developed are better utilized as a result of the inservice training received. More effective instructional programs are also established because the instructors are taught how to organize and implement a competency-based program of instruction. The association also benefits from the improvement and development of closer working relationships between vocational educators and members of the association. The construction industry also benefits from the implementation of training programs that provide students with more relevant and effective training in the skills needed by construction workers.

Vocational educators benefit greatly from the free technical assistance and inservice training that enables them to more effectively prepare their students for careers in the construction industry. The improvement of working relationships between vocational educators and contractors at the local level also results in such things as the increased availability of subject-matter experts from industry and better placement of graduates in jobs for which they are trained.

Facilitators and inhibitors of the activity. The many requests for help received from AGC chapters, contractors, and vocational educators serve to facilitate this activity. The development and publication of high-quality, competency-based, and modularized materials also brought the recognition that instructors needed inservice training to use these materials effectively as an altogether different approach to education. Another facilitator was AGC's desire to utilize the public vocational and technical education system as an alternative delivery source for meeting some of the human resource needs of the construction industry. The cooperation of the Oklahoma State Department of Vocational and Technical Education and the association's willingness to provide the service at no cost to vocational educators has undoubtedly encouraged its use and success.

The primary inhibitor of this activity is the cost of the training coordinator's salary and the travel expenses involved in providing technical assistance to instructors in all 50 states. As with a number of other activities, however, the AGC believes providing this assistance is so important to achieving the construction industry's human resource needs that the expenses required are well worth it.

Support of Vocational Industrial Clubs of America (VICA)

The AGC has for the last 4 years cosponsored with the National Association of Home Builders the VICA Skill Olympics carpentry contest. In 1986, for the first time, the association will also cosponsor the brick laying contest with the Brick Institute of America. Future plans also call for cosponsoring the cement masonry contest. (The association previously worked with VICA on the skill olympics in the early 1970 but an incident or several incidents caused the activity to be terminated).

Initiating the activity. The Manpower and Training Committee in 1981 decided to go to the VICA staff and ask if they could help sponsor some of the skill olympics contests in a way that would be mutually beneficial. The association decided to reestablish their relationship as one way in which to help recognize students who excel in their trade area. They also want to show the public, in general, that there is a lot of value and merit in doing quality work with your hands--that you don't have to sit behind a desk to be valuable in our society.

Planning and conducting the activity. The Manpower and Training Committee gave leadership to planning this activity by inviting the Executive Secretary of VICA to meet with their committee and discuss ways in which the AGC might be helpful. The association decided to investigate the possibility of cosponsoring the bricklaying contest, and they plan to soon cosponsor a third contest.

The national VICA organization assumes responsibility for most of the planning of the contests, whereas AGC assumes responsibility for providing a representative to serve on the technical committee for the contests. AGC also provides personnel to help operate the contests and pays one-half of the costs involved. The primary audience for the activity are trade and industrial vocational education students. The skill olympics are conducted yearly and take about 1 week to conduct. The AGC intends to participate in sponsoring these contests on a continuing basis.

Benefits of the activity. The association benefits from this activity because of the positive public relations value involved, the recognition that may be gained by their use of the association's curriculum materials, and the pride that members of the association feel from being involved in such an activity.

The vocational education community benefits from the motivation of students to do as well as possible in their training program. The teachers and the vocational education institutions involved also benefit from the friendly competition and positive public relations that result.

Facilitators and inhibitors of the activity. The strong desire of the Manpower and Training Committee to participate in this activity and to further expand their involvement is an important facilitator. The physical location of VICA's national office, facilitates joint planning as does the reasonable cost involved in actually cosponsoring the contests.

Although the costs of participation are affordable, the costs involved do inhibit greater involvement to some extent. One of the concerns that has resulted in some friction has been the competition for funds in the city where the contests are held. The local AGC chapter has sometimes been asked by VICA to donate funds to support their activities, and when the AGC asks for the support of their local chapter, they may not be able to contribute further.

Coordination and Cooperation with the American Vocational Association (AVA)

The AGC has historically been involved and active in some AVA activities. These have included helping to draft new legislation that will effect vocational educators and their industry, the exhibition of their training materials at the annual AVA convention, and the sponsorship of seminars at the convention some years.

Initiating the activity. This activity developed from a perceived mutual need and the benefit that can result from organizations that cooperate in various ways. Involvement in a specific activity such as the support of or the opposition to a proposed piece of legislation, may be initiated either by AVA or AGC. Involvement in ongoing activities such as sponsoring a display booth with the Oklahoma CIMC each year at the annual AVA convention, are more or less automatically done. Another ongoing activity involves the advertisement of their curriculum materials in the AVA Journal. Most of the activities involving AVA are approved by the Manpower and Training Committee, although some activities are sent up through channels for eventual approval by the president of AGC.

Planning and conducting the activity. Leadership for planning these activities usually begins with a phone call or meeting between staff members of the two organizations. Staff of either organization initiate the contact whenever they feel it may be helpful. Once the issue of concern has been discussed and there is agreement on the issue, then a joint plan of action may be developed. If there is disagreement on the issue, the involvement on that issue usually ends with a better understanding of each other's position. Depending on the issue, one organization or the other usually assumes major responsibility for carrying out the activity. Generally this type of activity requires few resources, except staff time for meetings. This type of coordination has been ongoing for several years.

Benefits of the activity. A major benefit that results from this activity, is it's educational value to AVA and AGC. By consulting with one another the lines of communication remain open and can lead to the formation of joint action, for example, regarding a particular piece of legislation. By displaying their curricular materials at the AVA convention and advertising in the AVA Journal, the AGC is able to make educators aware of their materials and training assistance. Also getting to know and trust each other lays the ground work for other things to happen that may benefit either or both associations.

Facilitators and inhibitors of the activity. The major facilitator of this activity is the mutual interest or concern that both organizations have about certain legislation and other issues. When the two can join forces on issues, they have more influence on legislative issues than they do by working alone.

A number of conditions tend to sometimes inhibit cooperation between the two associations. The structure of the two organizations is very different, and as a result, staff have different levels of responsibility for making decisions. In the AGC organizations, most decisions are made by the member contractors rather than by the Washington staff. To consult with their members and appropriate committees takes more time, which can be frustrating to AVA staff who sometimes want a quick answer. The two associations represent very different clientele and as a result often have different objectives and concerns.

Formation of a Joint Committee of AGC Representatives State Directors of Vocational Education

In 1982, the Manpower and Training Committee asked selected state directors of vocational education to join with them indeveloping a plan that would enable vocational and technical education programs to meet more effectively the needs of the construction industry. The joint committee consists of five AGC contractors and five state directors of vocational education who meet once or twice a year to discuss mutual concerns. The major purpose of the joint committee is to develop ways that will encourage vocational educators and AGC contractors to work together for their mutual benefit.

Initiating the activity. The joint committee was formed as a result of interest on the part of both groups. It was agreed that vocational educators and construction industry representatives should work together to develop a plan that, when implemented, would result in improving the public vocational education delivery system. Dr. Francis Tuttle, who was state director in Oklahoma at the time the committee was organized, assumed a leadership role in gaining the participation of other state directors. Dr. Tuttle was known by many of the AGC staff because of the long-term relationship that existed between AGC and Oklahoma's CIMC. The AGC was interested in the joint committee because there was an expanding demand for workers who would be employed by open shop contractors. The contractors also wanted to be in a position to help bring about some of the changes they felt were needed in the public educational system that they were supporting with their tax dollars.

Planning and conducting the activity. Both the concerned state directors of vocational education and the AGC Manpower and Training Committee participated in planning and implementing a program of activities. The staff of the AGC committee and state directors have worked together over the past several years to develop a plan to improve construction training that includes the following major recommendations for cooperative action[1]:

1. Identify training standards for construction crafts.

2. Establish and maintain national, state, and local advisory committees for construction programs.

3. Recognize quality vocational education craft programs.

4. Recognize outstanding students who complete construction training programs.

5. Share materials about careers in construction with vocational education.

6. Establish a system to provide inservice training of instructors and training coordinators.

7. Establish a committee for legislation and for national priority areas of mutual interest.

8. Strengthen the system of formalized communication between the construction industry and vocational education.

Once the goals were established, strategies regarding how each goal would be achieved were also devised. In some cases, both groups agreed to work together to implement some of the goals, whereas in other cases one group or the other agreed to assume major responsibility for achieving the specified goal.

It is believed that the formation of such a cooperative plan of action by an industry group and representatives of the state directors of vocational education is truly unique. The action plan is based on evidence that suggests that the public vocational education sector is underutilized in training workers for today's construction industry. It is also based on the belief that state directors of vocational education can and will provide the leadership needed to effect a close working relationship with the construction industry and, thereby, better use existing resources and materials to provide the skilled workers needed.

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[1] Taken from Forging a New Direction in Construction Training, a special report from the Associated General Contractors of America and the National Association of State Directions of Vocational Education, updated.

Benefits of the activity. The AGC has benefited from the joint committee's recommendations and actions. Many of the activities that the Manpower and Training Services staff now carry out or that are jointly conducted, resulted from the recommendation of the joint committee. The committee suggested such things as sponsoring the outstanding student and program recognition awards programs. Another benefit to AGC has been the opening up of better lines of communication with vocational educators at all levels. The joint support of vocational leaders and industry personnel has also made the implementation of needed changes much easier.

The vocational education community has benefited as well by the specific activities that are now being conducted as a direct result of the joint committees recommendations. The endorsement of the state director's association has resulted in gaining the attention of vocational educators at all levels. Such attention is needed to bring about more relevant training programs that will ultimately benefit the students who enroll in them.

Facilitators and inhibitors of the activity. The major factor facilitating the work of this committee is the recognition of a mutual need to work together to accomplish common goals and objectives. Its a situation whereby each can help the other accomplish much more by working together than they can by working alone. Another factor facilitating this activity was the perception on the part of the state directors of vocational education that here was a major trade association who sincerely wanted to cooperate with them in every way possible. That had never happened before. Last, is the positive feedback to the decisionmakers that this joint effort is really beginning to pay off. This type of feedback to the AGC decision makers has made it much easier to offer the funding needed to support the recommended activities.

There are also a number of factors that make full achievement of the joint committee's potential difficult. The time available to the contractors and the state directors is always limited. The cost of out-of-state travel is another barrier to more frequent meetings between the groups. The fact that the state directors and contractors are coming from different parts of the country, means that they also have somewhat different sets of priorities and problems. The frequent turnover among state directors in some states, also makes it difficult to make and carry out a long-term program of work because the actors keep changing. Another hindrance to the committees work is the poor working relationships that exist in some states between contractors and educators.

Service on Vocational Education Advisory Councils and Committees

The AGC has established a national policy that urges contractors to get involved in vocational and technical education at all levels by serving on national, state, and local advisory councils and committees. The rationale behind this recommendation is simply that the contractors should get involved so that they will have legitimate ways to influence the programs that are designed to prepare workers for the construction industry.

Initiating the activity. This activity has long been recognized by the association as an important avenue for having a positive influence on vocational training programs. The activity has often been initiated at the local level where good relationships between the educators and contractors exist. Where the local relationships are not good, however, they often do not obtain the representation that is desired. Even though contractors volunteer their service, it is usually up to school officials officially to invite them to serve. Even though national policy recommends their getting involved, there is little else that the national office can do. They have also asked staff members of the local AGC chapters to get involved with such committees but are unable to monitor the extent to which that has actually been effective.

Planning and conducting the activity. At the national level AGC staff went directly to the contractors who serve on several assocation committees such as the collective bargaining committee, the open shop committee, the construction education committee, and every other national committee that they thought had even a remote training responsibility connected with it. These contractors were urged to do all they could to get on one of these committees. The staff also urged the staff of every local AGC chapter to discuss the benefits of serving on an advisory committee with their member contractors.

Benefits of the activity. AGC feels by getting their members on as many advisory councils and committees as possible, they will increase their opportunities to influence positively the type of vocational education programs offered to construction trades students.

Vocational educators also benefit from the service and advice provided by contractors who will ultimately employ many of their students. In the final analysis of things, it is the students who benefit the most by receiving instruction that is pertinent to their future careers in the construction industry.

Facilitators and inhibitors of the activity. The national AGC staff is doing all they can to encourage their contractor members to serve on vocational education advisory councils and committees at all levels. It is fair to say that the association is aggressively urging their members to serve on such committees.

Perhaps the major inhibitor of this activity is the fact that most vocational education advisory personnel are usually invited or appointed to serve on such committees rather than being selected by application. In fact, an active attempt to secure appointment to such committees could easily be mistaken as an effort to influence the program unduly. Also, the AGC has no systematic procedure for collecting information regarding how many members actually serve on these committees nor anyway to accurately measure the benefits that come from such service.

Sponsorship of the Vocational Education Recognition Program

The AGC and the National Association of State Directors of Vocational Education (NASDVE) jointly developed goals and objectives that, when implemented, will improve the quality of construction craft programs. The AGC Recognition Program was developed as a method for local AGC chapters to recognize vocational education programs that meet construction industry training standards.

Initiating the activity. This activity was identified and proposed by the joint committee of AGC and NASDVE as a means of motivating vocational educators to design and deliver vocational education programs that meet all of the industry established program standards. This activity was approved by AGC's Manpower and Training Committee, the board of directors, the Executive Committee, and its officers. Twenty of their 108 local chapters have already participated in this program.

Planning and conducting the activity. After the recognition program's goals and objectives were established, the AGC Manpower and Training Committee gave leadership to developing the specific criteria and recognition procedures. Draft materials were submitted to members of the joint committee for their review and critique. The revised recognition program materials were then distributed to all state directors of vocational education and local AGC chapters urging them to make educators in their state and areas aware of the program. The AGC chapters were asked to encourage educators in their area to consider participation in the program. To participate in the program, school officials must complete the application forms and return it to the local AGC chapter. A site verification team is then selected to visit the school and document achievement of the recognition program standards. If the program meets all the standards, the Site Verification Team Approval Form is completed and a copy is mailed to the AGC National Office of Manpower and Training Services.

The local AGC chapter awards a plaque identifying the program as meeting the construction industry training standards. Each year the national AGC office publishes a list of all recognized programs in the Constructor magazine. Students who graduate from a recognized program may also be awarded an AGC skill card that identifies them as having completed a training program that meets industry standards.

After initial recognition by AGC, an annual self-evaluation may be completed and signed by appropriate officials for the recognition privileges to be continued. The local AGC chapters are responsible for conducting the on-site evaluation and pay for the plaques awarded. The program, which took about 1 year to develop, is an ongoing activity that can be used to recognize either secondary or postsecondary programs.

Benefits of the activity. The association benefits from this activity through the good publicity that is associated with it. It is also expected that local contractors will see improvement in the skill level of the employees they hire.

Vocational education also benefits in several ways. Industry recognition of the quality programs enables them to gain more local funding and support. The instructors and administrators involved also gain favorable publicity and recognition for their efforts. And, the students involved in such programs gain from that recognition when they seek jobs within the industry.

Facilitators and inhibitors of the activity. Three factors were identified as facilitating this activity. They were as follows: (1) the trend toward open shop construction, (2) dissatisfaction with some vocational education graduates, and (3) the desire of most instructors to obtain recognition for offering a program that meets industry standards.

Factors that tend to inhibit conducting this activity were identified as follows: (1) the AGC structure gives local chapters much autonomy, (2) chapters that are heavily union-oriented are not likely to participate, (3) some schools lack financial resources to obtain the necessary equipment and facilities required to meet standards, and (4) the extensive paperwork and time involved in completing the application forms and the on-site visitation.

Sponsorship of the Outstanding Vocational Educator Award

The AGC's Manpower and Training Committee has developed a program to recognize an outstanding vocational educator at the national level. The national winner receives a $2,500 award and an expense-paid trip to the AGC's national convention. Local chapters of AGC are expected to select and recognize a state-level winner in an appropriate manner.

Initiating the activity. This awards program for construction craft teachers was suggested by the joint AGC and NASDVE committee. This activity was initiated in 1985 to recognize outstanding instructors at the national and state levels and as a means of sending a message to instructors who have not kept up with the new processes and other changes that have occurred within the construction industry. The AGC spokesperson said, "Although there are a lot of excellent instructors out there, there are also a lot of people in our classrooms, that we feel should not be there. And the reason they should not be there is that they have been out of the field for 15-20 years and have not kept abreast of the many changes that have occurred within the construction industry."

This award is designed to identify model instructors who are involved with AGC, who use AGC materials, who are current in their field, and who doing things the way contractor members feel they should be doing them. Plans for this activity were approved by the joint committee and by the AGC hierarchy.

Planning and conducting the activity. The AGC's Manpower and Training staff gave leadership to the development of this activity in much the same way that they planned the vocational education recognition program. The teacher recognition program is conducted by staff and contractor members of the Manpower and Training Committee at the national level. Applications are sent directly to the national office of AGC's Manpower and Training Committee where contractor members evaluate the applications and select one national winner. Applications are then sent to local AGC chapters for their consideration for local/state awards.

Applications for the award are distributed through several AGC chapters and through the offices of all the trade and industrial education supervisors in state vocational education agencies. The state supervisors are asked to disseminate the materials (a "wanted poster") to their instructors. Instructors, school administrators, the state education agency, and AGC chapters or contractors are all eligible to nominate persons for this award. Upon receipt of the "wanted posters," which require only a name, address, and the craft area, the AGC national office mails the regulations and application form directly to the instructors.

The intended audience for this recognition program is the construction trades vocational teachers. This award is expected to be made yearly if sufficient interest is shown and the necessary funds are available.

Benefits of the activity. The association feels that they will receive some favorable publicity because of the award. It is also hoped that the teacher recognition program will cause the trades instructors to try harder to be better instructors and in turn, produce better graduates of their programs.

As for vocational education, the award gives the instructors something to strive for. It also gives the state winners and national winner recognition for themselves, their school, and program.

Facilitators and inhibitors of the activity. The factors perceived as facilitating this recognition program include the $2,500 award and an all-expense-paid trip to the AGC national convention for the national winner, and the recognition gained by the state and national winners. The role played by the state supervisors of trade and industrial education also helps in identifying and encouraging instructors to apply for the award.

The major inhibitors of this activity are the expenses involved and the difficulty of evaluating a large number of applications accurately. Some subjectivity is involved and an applicant can only be evaluated based upon information included on the application. Some people write better than others and as a result may look better on paper than they really are. The application form was designed to be comprehensive on purpose so as to discourage applications from teachers unless they feel they have a good chance of winning.

Sponsorship of Scholarship Program

The AGC Education and Research Foundation established a scholarship program for students who intend to enroll in a 4-year program in construction or civil engineering. Students at the high school level may apply for a scholarship if they definitely plan to go into a 4-year college program in construction or civil engineering. Students who are in their sophomore year at a postsecondary school may also apply if they plan to transfer into a 4-year college program to complete their junior and senior years.

Initiating the activity. This activity was initiated by the AGC Education and Research Foundation in 1970 to provide financial assistance to students wanting to enter a 4-year college program in construction or civil engineering. A number of college-based construction educators had contacted the AGC Foundation to express their belief that more students would enter their programs if only there was some type of financial assistance available to them. There was also a belief held by many contractors and AGC personnel that brighter students should be encouraged to obtain a 4-year college degree so that they would be better qualified to assume supervisory and management roles within the industry. This activity was approved by the AGC Foundation's board of directors.

Planning and conducting the activity. Two professors of construction education who also were voting members of the AGC Foundation board gave guidance to developing the criteria and application materials for the scholarship. The educators helped to develop criteria regarding how the students would be selected to receive a scholarship. They recommended selection criteria such as follows: (1) students must be enrolled or planning to enroll in a 4-year college program; (2) they must be majoring in either civil engineering or construction or one of these two fields combined with another major such as computer science; (3) they must be going to school full time; (4) they must demonstrate the ability to obtain a reasonable grade point average (about 2.5, although that is not a hard fast requirement); and (5) they must demonstrate a sincere commitment to entering the construction industry upon graduation.

About 500 applications are received each year, from which about 75-80 finalists are chosen. All finalists are interviewed by an AGC contractor where they live or where they go to school. A major attempt is made through the finalist interview to assess whether or not the student intends to pursue a career in the construction industry.

Applications for the scholarship are sent to all local AGC chapters, and the chapters, in turn, distribute them to the high schools and the 2-year postsecondary colleges. The 4-year colleges receive applications directly. The scholarship program is also listed in several national scholarship listings used by teachers, counselors, and the students themselves to request about 2,000 applications per year directly from the AGC Foundation.

Vocational educators in the construction trades area often perform an important supportive role. They may request applications for their students and encourage them to apply directly or with the aid of a school or college counselor.

The task of reviewing and evaluating all of the applications received is a major undertaking. Much time is also required by local contractors who must interview each scholarship finalist. Since the scholarships are for $1,500 per year for a maximum of $6,000, if the student applies as a high school senior and completes a 4-year program, a lot of financial resources are required. The AGC Foundation has awarded more than $1.4 million to 580 students since 1970.

The primary audience for this program are the secondary and postsecondary students who are enrolled or planning to enroll in a 4-year construction or civil engineering degree program. This activity is conducted yearly, with the number of awards being made dependent upon the quality of applications received and the amount of foundation money available.

Benefits of the activity. The foundation feels that the association benefits in several ways from this program. Surveys of the recipients of the scholarships show that 80 percent of the scholarship winners go into some aspect of the construction industry after graduation. Of this 80 percent, more than half of them have gone to work with an AGC contractor. With the type of technical and managerial training received while in college, these employees are capable of helping the contractors manage projects and supervise construction personnel. Many of the recipients remain committed to AGC and often later serve the association as committee members and officers. In addition to these benefits, the foundation and the association also receive some excellent publicity for the assistance they are providing to these students.

Vocational educators benefit from this activity because it offers opportunities to high school seniors and postsecondary students that would otherwise not be available. The scholarship program may also be helpful to teachers who want to recruit good students who plan to go on to college after high school.

Facilitators and inhibitors of the activity. The AGC Foundation scholarship program is nationally known and recognized as one of the largest suppliers of scholarships for students that plan to go into the construction industry. Contractors are aware of this program and support it in every way they can. Former recipients also are good promoters of the program, which helps in getting the word out to new candidates. The publication of information about these scholarships in several national scholarship catalogs gives the program status and further publicity.

The availability of large amounts of money that is donated to the AGC Foundation by AGC contractors makes this program possible. There is a strong and broad-based support for the program from the local chapters and the individual contractors.

Factors that tend to inhibit operation of this program include the following: (1) the difficulty of getting applications out to everyone who is qualified, (2) the considerable amount of time required by the national foundation office to review the applications, (3) the time required of the foundation board members to review about 100 applications each, (4) the time required to interview each candidate, and (5) the fact that the students must apply for the scholarships almost a year before the funding is made available.

Potential Future Contributions to Vocational Education

AGC personnel expect the association's potential for making future contributions to planning and conducting vocational-technical education programs is likely to remain about the same. All of the association's activities that support vocational education either require staff time or financial resources or both. If the construction economy picks up, then some increased linkages are likely over the long run. On the other hand, if that same economy decreases, the association will also have to decrease its financial support of these programs. The association obtains its money from the dues that its contractors pay, and the amount of dues depends on the amount of work the members do. When the amount of work decreases, the amount of dues paid to AGC also decreases.

The association feels they know what is needed in terms of the skills required, and they have a broad network of chapters that are amenable to cooperating with educators.

When asked about who should initiate activities, the AGC spokesperson replied, that both the association and vocational educators have a responsibility to initiate activities that can improve the local situation. Neither side should wait for the other to make changes that are needed. And, if help is needed in making the necessary changes, neither side should hesitate to ask for it. Both sides should be helping the other, and the lines of communication need to be kept open.

The most authority for linkage with vocational education in the AGC, rests with the Office of Manpower and Training Services. In vocational education, the AGC feels the first-line linkage should be between the local chapters and the instructor. At the state level, in most cases the most effective linkage is with the office of the state director of vocational education and/or with the state supervisor of trade and industrial education.

When it comes to funding linkage activities, the AGC feels that it should do the program development work, any necessary printing, and the necessary information dissemination to their local chapters. It is then primarily the local chapters' responsibility to provide the human and financial resources necessary to follow-through on the programs.

Vocational education's responsibility is to hire and pay qualified instructors, to offer relevant instruction, and to provide adequate facilities, equipment, and supplies to operate an effective program. That is not to say that AGC is unwilling to assist further by serving on the advisory committee, and so forth, but that basically the facilities and instructors are not their responsibility.

Labor Market/Changing Technology Information to Vocational Education

AGC does not collect any information about the employment demand for new and emerging jobs in the construction trade. The association uses secondary sources of labor market data and information that is produced by the Washington, D.C.-based Construction, Labor, and Research Council (CLRC). The CLRC is funded by several construction trade associations, including AGC, to produce the labor market information they need.

AGC also utilizes data on labor projections produced by the U.S. Department of Labor. Although this type of data is useful in predicting countrywide trends, it is inadequate on the local level. A vocational school or a community college should never establish or close down a construction trades training program using national data. Such data has absolutely no bearing whatsoever on the local situation. It is absolutely essential that labor supply and demand data be either localized or at least regionalized data.

AGC does not collect any information regarding potential shortages of skilled labor for existing jobs either. Again, national data of that type would not be relevant to planning a program at the local or regional level. Contractors who are members of the Manpower and Training Committee always have a good understanding of the employment situation in their own community or labor market area, but it is usually unique to their specific situation. AGC staff indicated they would like to have relevant information for all of their chapters but have concluded that such data is almost impossible to gather at the national level.

AGC periodically collects information about the type of job skills needed by the various construction trades people. As changing technology impacts upon the type of skills needed by these trades workers, AGC conducts job analysis studies to identify the changes. Staff then modify the curriculum materials for those trades, so that the competencies addressed in training programs using their instructional materials will accurately reflect the actual job situation. AGC's goal is to update its job analyses and the association curriculum materials approximately every 5 years.

The job analysis information is readily available to vocational educators, as are the curricular materials. AGC staff feels it is highly unlikely that labor market demand and supply data will ever be available directly from their trade association because of the difficulty and cost of gathering such data. If such data should somehow become available, however, the association would be happy to share the information with vocational education.

EDUCATIONAL INSTITUTE OF THE AMERICAN HOTEL & MOTEL ASSOCIATION

The Educational Institute is a wholly-owned subsidiary of the American Hotel & Motel Association (AH&MA). With its headquarters in New York City, AH&MA is a federation of state associations with about 9000 corporate members, representing about 1,200,000 employees. The Educational Institute was established by AH&MA in the early 1950s to provide education and training resources and services in order to increase the knowledge and skills of hotel/motel employees as well as to attract persons into hotel/motel employment. Earlier efforts by the parent association lacked the desired effect that was considered necessary to meet the rapidly expanding personnel requirements of the industry.

Although some Institute activities resemble those of other trade associations, the totality of its effort offers a unique model for education and training services. Its governance and funding illustrate the point. The Institute has its own Board of Trustees that consists of industry executives and academicians. AH&MA's only formal link to the Institute is its authority for approval of the Institute's Board of Trustees. Internal Institute operations are carried out by a Board of Trustees appointed Executive Director, and an administrative and support staff of nearly 60 persons. The Institute's budget is separate from AH&MA, and it operates as a nonprofit educational foundation. All operations are therefore self-sustaining whereby the development and operating costs are recovered through the sales of products and services. Volunteerism is a positive force in that all education and training projects of the Institute utilize the voluntary advisory services of association member committees and academicians who join with Institute professionals.

Of special significance is the Institute's close affiliation with Michigan State University, a partnership which has extended over three decades. While there is no formal relationship, the Institute is situated on the campus at East Lansing. Strong internal ties exist with the School of Hotel, Restaurant and Institutional Management in the College of Business. Faculty from that school assist with Institute product development efforts, offer settings for the tryout and revision of textbooks and other course materials, and find through their participation in Institute activities a close tie to industry practice. Institute professionals on the other hand engage in teaching some university courses, and often augment their regular duties through participation in academia. The University offers the Institute a broad range of support services, including telecommunications, computers, access to libraries, and others. Much of the Institute's total structure and operation have therefore been influenced by this special symbiotic relationship with a major university.

Within this organizational framework the Institute's overall strategy is influenced by two major conditions. One is to help satisfy the industry's expanding training and education requirements. The other is to select activities and develop products and services that will enable the Institute to be self-sustaining. The Institute endeavors to address key personnel development problems and respond with appropriate training models which can be applied through multiple approaches. It carries this out with a singular focus upon the hotel-motel segment of the hospitality industry.

Activities Related to Vocational Education

The Educational Institute's mission and program includes but is not limited to the scope of public vocational education. For example, Institute-designed management seminars are used to train thousands of hotel/motel managers and other decision-makers each year. In a more recent venture, printed Executive Briefs provide timely information in newsletter form to practicing managers on a variety of topics. Middle-management training is undertaken by individuals through independent and group learning arrangements that occur outside of the public educational system.

Within the breadth of its efforts the Educational Institute dwells most intensively upon middle-management training. Within public education this translates mostly to postsecondary schools, colleges, and universities. Secondary school vocational education, with few exceptions is not involved at present, but most likely will be in the future.

Public postsecondary vocational education draws most directly from three components of the Institute's total program.

- Training Courses
- Textbooks and other Instructional Materials
- Certificate/Diploma Services

All of these components are designed to be interactive in practice, and in that sense are parts of one system. These close ties among all three will be recognized throughout this report, but they are described separately in order to more adequately reveal some unique aspects of each, and thus reduce the complexity of the narrative.

Development and Application of Training Courses

The Educational Institute has developed 23 courses that cover all functional areas of hotel/motel operation. Together they comprise an industry-driven system wherein present and prospective hotel/motel employees can learn a wide range of understandings, skills and attitudes. The courses are clustered into the following groups:

- Rooms Division Management
- Food and Beverage Management
- Marketing and Sales Promotion
- Accounting and Financial Management
- Engineering and Facility Management
- Management Development

Considerable flexibility exists wherein persons may participate in the following:

- Enrollment in such formal institutions as postsecondary technical schools and degree-granting colleges and universities
- Group study in employer settings, and in Educational Institute chapters
- Independent learning programs through correspondence

The Institute has accreditation from the Accrediting Commission of the National Home Study Council for its training courses and from the state departments of education where the courses are provided through adult education programs.

Initiating the activity. Two key motives are apparent regarding the Institute's training course development. One is to assemble the best of what employees require to perform effectively in all segments of hotel/motel operation, and to update this information periodically. Another is to design instruction and learning arrangements that are applicable to a variety of training settings and approaches, including independent learning.

Institute professionals assume responsibility for initiating new training courses or revising existing ones. Input to these decisions come from a variety of sources. The Educational

Programs Committee, comprised of both industry and academia representation, is an important continuing resource. Discussions with industry executives and academicians provide another source of advice. After assembling a proposal for a particular project, approval is granted by the Institute's Executive Director.

Planning and conducting the activity. Training courses are developed through a project approach. For each project the Institute assembles a review team of 6-10 persons representing both industry and academia. Persons are selected nationally according to their particular expertise in the subject at hand. This review committee functions at an advisory level to the Institute throughout the life of a project, which includes periodic revisions of a particular course.

Review committee members and Institute professionals work jointly in the conceptualization and design of training courses. Consideration is given to each of the components, which include instructor's guides, student certification manuals, and examinations. Textbooks are utilized with all training courses as well; their development is described in a later section of this report. Authors are identified for various products under development. Their outlines and drafts are proofread by the review committee and assigned to professional Institute editors.

As materials approach the production stage, they increasingly become an internal Institute operation. Established policies and guidelines apply to such matters as editing and formating of training course materials. The Review Committee reviews the final draft for accuracy and completeness.

Training courses are marketed directly by the Institute, the official publisher. Courses are marketed on a priced basis, with the same prices applied to both AH&MA members and nonmembers.

The Institute's participation in the application of training courses varies according to options selected by users. Students who enroll in independent learning programs interact directly to the Institute. They receive a student certification manual that contains learning tips, performance objectives, and self-scoring review quizzes as well as the related textbook for the course. Independent learning program students also must have an assigned proctor, a responsible person in the vicinity who has been approved by the Institute. This individual provides assurance that examinations are taken correctly. Examinations for independent learners are scored by the Institute, and upon satisfactory completion of a course, the appropriate certificate is provided to the student by the Institute. The Institute also maintains a permanent, computerized transcript record for each student.

Independent learning programs illustrate maximum involvement by the Institute. Group learning programs in employee settings and Educational Institute Chapters are serviced by the Institute in a manner similar to independent learners. Two-year postsecondary technical institutions and 4-year degree granting colleges and universities have more flexibility in their utilization of Institute training courses. Two major options are offered by the Institute's International Academic Partnership (IAP), a flexible arrangement whereby a college or school can integrate its curriculum with the Institute's training courses. The Full Academic Partnership (FAP) is implemented by institutions which fully utilize the Institute's courses and certification. The Modified Academic Partnership (MAP) allows schools to select only those courses and services which are desired. Participating institutions have the option of including some of their own courses, with prior approval of the Institute, with both FAP and MAP.

Flexibility in training course participation also occurs through the changing circumstances of students. For example, a student might complete some courses in a postsecondary technical institution, others as an independent learner, and still others in a employer-sponsored group arrangement.

Students of Institute training programs are encouraged to get some kind of job experience. This is especially true of independent learners who gain very much from the interaction and reinforcement of job experience. Postsecondary colleges and schools are likewise advised to augment their courses with some kind of industry experience/requirement.

Benefits of the activity. The hotel/motel industry has benefited from more highly trained individuals who have completed training courses. In 1985, nearly 40,000 persons in 95 countries completed Institute programs through various arrangements. Nearly 500 degree-granting institutions throughout the world offer formal training courses.

Vocational education has been aided by the provision of expertise from the hotel/motel industry and the Educational Institute in the development of new programs. The detailed design of the course materials also makes it possible to operate with more inexperienced staff. Likewise, Institute certification provides recognition to students who have completed training courses.

Facilitators and inhibitors of the activity. The Educational Institute has established a close working partnership with industry and academia to develop training courses. An additional facilitator to this process has been the freedom and flexibility by which this partnership is able to respond quickly to the changing needs of the hotel/motel industry.

No major inhibitors to the operation were reported by the Educational Institute representatives interviewed for this study.

Textbooks and Other Instructional Resources

The development, production, and distribution of textbooks and other instructional resources is one of the Educational Institute's central and highly visible activities. Much of this activity is closely associated and forms an integral part of training course development. However some aspects of this activity warranted a separate description, which is the subject of this section of the report.

Initiating the activity. Internally-produced textbooks were not always a part of the Educational Institute's program. For a time, training courses were developed and textbooks were acquired from other sources and used with them. Many of these textbooks were thought to be too theoretical, not relevant, expensive, and/or out of date. Therefore, the Educational Institute decided that the success of its training courses was dependent upon the availability of relevant and useful textbooks and other instructional resources.

Up to the present time, textbooks represent the most important part, and have been developed for 18 of the 23 training courses that the Institute provides. Ancillary materials such as instructor's guides and student manuals are available for all 23 courses. Some other special-use publications, aside from training courses, have been developed. Recently, some videocassettes have been produced and it is anticipated that more electronic media materials will be developed in the future. Computer-based interactive video training is one example.

Planning and conducting the activity. The development process for textbooks and other instructional resources closely parallels that which was described earlier for training course development. That is, Institute professionals provide leadership with the close association of specially designated review committees for each item to be developed. Joint efforts by representatives of industry and academia outline the content to be incorporated. Committee representatives also review the drafts at each stage of development. Institute professionals undertake the major production tasks, with printed as well as with multimedia materials.

Financial resources for textbook development and production come from the revenues of sales. Input from the review committee is a no-cost contribution to the Institute, with the exception of travel and related meeting expenses which the Institute incurs.

Textbooks are largely used with hotel/motel training programs, institutional and otherwise. Generally, 2-year postsecondary institutions would purchase textbooks along with courses and related instructor and student manuals, and perhaps use the Educational Institute's examination grading service. Four-year degree-granting institutions are more likely to use them with courses they themselves have developed. Independent learners and group programs use textbooks in relation to other course materials in order to qualify for Institute certificates and diplomas.

Benefits of the activity. A major benefit of textbooks to hotel/motel training is having materials that are keyed to courses, contain a better balance of theory and practice, and are revised as changes occur in training requirements.

To academia, which frequently lacks specialized personnel to teach hotel/motel management, the textbooks and instructor's guides provide a means by which programs could be more effective. There is also the assurance that Institute-produced textbooks and other resources have the support and advocacy of industry executives and practitioners.

Facilitators and inhibitors of the activity. Textbook development is facilitated by the same combination of professional interest and expertise that is utilized for training course development, thus allowing the Educational Institute to produce texts for reasonable costs to those who train hotel/motel personnel. No special inhibitors were noted.

Certification

The Educational Institute maintains a certification program for persons in hotel/motel management that provides standardized recognition for training and experience. The certification requirements are related to the various training courses which the Institute offers, but it is possible for candidates to complete what are called "challenge examinations" in lieu of taking courses.

The system for certification is shown in exhibit 1.

EXHIBIT 1
INSTITUTE SYSTEM FOR CERTIFICATION

CERTIFICATION	REQUIREMENTS
o Course Certificate	Complete one of the Institute's 23 courses
o Certificate of Specialization	Complete five course series within one of six areas of specialization
o Institute Diploma	Complete two Certificates of Specialization--one in Management Development and one from the remaining five areas of specialization--and two elective courses selected by the candidates
o Executive Certification in the following areas: - Certified Food and Beverage Executive - Certified Hospitality Housekeeping Executive - Certified Rooms Division Executive - Certified Engineering Operation Executive	PLAN A: Requires completion of the Institute's five-course Certificate of Specialization in the respective area plus two additional courses, 1 year of verified experience as manager of the departmental function for which certification is being sought, and successful completion of a comprehensive examination PLAN B: Requires 3 years of verified hospitality industry experience (2 years at the manager or department-head level, at least 1 of which was specifically in the position of manager of the departmental function for which certification is being sought) and successful completion of a comprehensive examination
o Certified Hotel Administrator	PLAN A: Requires completion of the Institute Diploma plus five additional courses, and 3 years of verified hospitality industry experience PLAN B: Requires 3 years of verified experience and a current position as a general manager, corporate executive, or hospitality educator, and successful completion of the CHA comprehensive examination

Initiating the activity. The certification program is designed to encourage the development and recognition of different levels of expertise and specialization of persons in hotel/motel management and operation.

The certification program is conducted by the Educational Institute. A Certification Commission consisting of 15 leaders from industry and academia review the requirements and the procedures by which certification is carried out. Authority for all decisions about certification rests with the Institute's Executive Director.

Planning and conducting the activity. At the heart of certification are standards for performance in hotel/motel operations that are identified and translated into training courses of the Institute. A system of tests and examinations is then developed to assure that candidates have met particular requirements. The Institute administers and grades tests, or arranges for them to be administered through proctored arrangements. The entire system for certification is subjected to regular review and revision by Institute professional staff and the Certification Commission. With the approval of the Board of Trustees the Certification Commission is responsible for approving the content and implementation procedures for all Institute professional certification programs. The Commission consists of up to 15 members, including representation from academia and industry. At least five Commission members must be from the Board of Trustees.

The certification system is maintained by fees paid by candidates to the Educational Institute for its service.

Primary audiences for certification are those persons who take courses in 2-year postsecondary institutions, through employer group settings, and those who complete courses through independent learning. Persons who receive degrees from 4-year institutions tend more to rely upon the degree itself as a symbol of achievement and expertise.

Benefits of the activity. Employers in the hotel/motel industries can more ably select persons for various levels of expertise and specialty in their organizations. Students who complete courses receive recognition for their accomplishments in a uniform way that can be recognized by employers throughout the country.

Facilitators and inhibitors of the activity. Certification is facilitated by the availability of professional expertise in both industry and academia. The Educational Institute's network of training courses also provides a readily available means for persons to prepare for various levels of certification. The certification program also offers the flexibility of "challenge exams" that allow individuals to receive recognition for study and experience outside of the framework of the Institute's formal training course structure.

Inhibiting the certification's program is a constant need to review and revise programs and materials, as well as the tests which must respond to changing industry requirements. Closely related is the fact that certification is a one-time event with no arrangement for recertification in future years.

Potential Future Contributions to Vocational Education

There is an expressed high degree of satisfaction by Educational Institute officials with their present situation. Such qualities as independent status, quick response capability, a blending of expertise from industry and academia in all aspects of work, and what appears to be an effective symbiotic relationship with Michigan State University all seem to contribute to this satisfaction.

This being the case it is likely that the Institute's contributions to vocational education will increase. The increase would result from continuing its present activities with whatever changes are needed, and pursuing new targets of opportunity.

One such opportunity is to place more emphasis upon high school-level vocational education, which to date has received fairly little attention. There are a few instances where high schools have taught some individual training courses.

Present training materials are not aimed at high school-level skills training. The Institute, therefore, plans to produce materials that would prepare high school graduates to enter the industry directly, or perhaps allow them to achieve advanced standing in postsecondary vocational programs. This might include short-term courses that high schools could adopt. Multimedia approaches are expected to be an important component of high school training programs.

One reason for interest in the high school is that the hotel/motel industries is labor-intensive and large numbers of skilled workers are needed. The industry is also interested in having young people who have had sufficient schooling. High schools providing entry-level training, including some kind of on-the-job training, would be preferable to students receiving all of their training on the job.

The Educational Institute recently produced a career guidance videocassette on the hotel/motel industries for use in schools. This videocassette is one effort to contradict what some industry officials believe to be negative approaches by guidance counselors. Some high school students, it is believed, are dissuaded from the hotel/motel industries without sufficient information. This may arise in part from the fact that hotel/motel training doesn't fit well into the traditionally recognized vocational areas. The Industry recognizes that it needs to create more awareness among school officials of the potential for hotel/motel employment and the role of vocational education in training new employees.

Closely related to the high school programs could be a potential for adult education programs in communities. Because many of the entry-level people are immigrants, it would be necessary to also consider language training, when necessary, for these persons.

A second major future target for the Educational Institute is the packaging of training materials and a greater variety of high technology delivery mechanisms for instruction. To date, most training information is in textbook form one book for each course. Because of the large size of some books, there is the possibility of breaking them up into smaller segments, as modules for example. This would allow for greater flexibility in their use, and would allow easier revision of some parts.

The Institute is also making inroads into a variety of educational technology developments. Videotaped scenarios of hotel/motel operations, for example, are used to reinforce instruction. A computerized simulation of an accounting exercise is another. In this manner, the Institute feels that instruction can be made more interesting and more effective.

If these developments occur the Institute's desire to increase the number of qualified entrants in hotel/motel employment would be served. Although much training will likely continue to be given to employees by their employers, the Institute's primary strategy calls for significant amounts of preemployment training to occur within the public secondary and postsecondary vocational education programs. It is hoped that this school-based approach would include some kind of internship experience in a work setting to reinforce the formal training.

Whether and to what extent all of this occurs will depend upon vocational education's response. The Institute has the capacity to expand its efforts if funding is available from the education side of the partnership to develop and operate programs. The Institute is also open to proposals from vocational educators regarding other possible developments, such as teacher training and others. Without such developments the Institute will likely continue the present resource-client relationship whereby it produces training courses, textbooks, and other materials as well as certification services that will be available for purchase by the vocational education community.

As a final observation, it would seem that the Educational Institute has established a solid foundation for the preparation of qualified personnel for management and middle management, and are moving with interest toward entry skill levels. At the same time, there exists an interest to train their people in the secondary and higher education system. Potential exists for young persons to enter this field at an entry level, and for their upward mobility through further training. Taken together, it would seem that secondary schools and 2-year postsecondary schools and colleges have much potential for offering programs that meet the diverse needs and interests of their full-time students, and perhaps adults in some communities.

Labor Market/Changing Technology Information to Vocational Education

In reference to the three conditions about the labor market and changing technology to which this study relates, shortages of skilled labor for existing jobs is most relevant to hotel/motel operators and managers. Less concern is noted about demand for new and emerging jobs, or about the effects of changing technology. Several factors seem to bear on this. One is that hotel/motel operations are labor intensive, requiring from one to one and a half employees per room, depending upon the level of service provided. Second, there has been widespread growth in hotel/motel operations that has increased the total number of employees required. Last, in contrast to some other industries, the technology is more stable in hotel/motel operations. Technological change does affect to some extent the skills needed, but does not displace workers to any significant degree. A prime concern in hotels and motels therefore is to attract and retrain adequate numbers of qualified persons to accommodate the increased numbers needed.

Surveys of labor market demand are not carried out in any formal and periodic sense, by AH&MA or the Educational Institute. Some dependence is placed upon projections from secondary sources, primarily the federal government. These projections are considered to be quite adequate in the sense that national projections are useful. However, national projections have limited value, especially when planning for local education and training programs. When queried on this subject, Institute officials recommended that educational institutions that are desirous of starting hotel/motel training programs should contact industry representatives in the localities that they serve to determine the demand for employees. Other benefits would also accrue from such contacts, such as developing active partnerships for internships, placement of graduates, and obtaining resource persons to assist with program planning and operation.

Although national surveys are not conducted to determine what skills are needed, this matter is addressed during the development of the Institute's training courses, textbooks, and certification arrangements. Most reliance is placed upon the judgments of knowledgeable persons from the industry to determine what skills are needed, and to what level of proficiency, in the various training courses. It is believed that these specialists, actively engaged in the Institute's Educational Programs Committee, and the various project review committees, provide a valuable resource for making necessary judgments. The Institute also endeavors to subject its training courses and related materials to frequent review based on feedback from users in the field.

Vocational education's benefits from the Institute's efforts to track labor market and changing technology information are indirect. That is, vocational education institutions which use Institute training courses, textbooks, and examinations have some assurance that practicing industry experts have determined whether the substance of these materials is in alignment with present and futuristic requirements.

It is possible that the Institute will conduct some studies related to labor market conditions and requirements. The Institute is equipped to conduct such studies, and one potential target is to develop a "career ladder model." Whereas the usefulness of conducting special formal studies is not discounted as a matter of principle, there is a question of whether such efforts would be cost beneficial. Institute support is on a cost-recovery basis and there would be practical limits for funding such special investigations. In the event that formal studies of labor market projections would be done, objections to sharing the results with the vocational education community would not likely present any problem. It is in the Institute's and AH&MA's best interests for vocational educators to be knowledgeable and active in the training of prospective hotel/motel employees and any cooperation is considered beneficial.

THE ELECTRONIC INDUSTRIES ASSOCIATION

The Electronic Industries Association (EIA) is the national trade association of electronics manufacturers. Products from this industry range from minute components to complex systems used in defense, space, and industry. Examples of products are telephones; televisions; video recorders; video cameras; audio compacts, components, and consoles; automobile sound and security equipment; blank and prerecorded audio- and video-tape and videodiscs; satellite earth stations; telecommunications equipment; computers and software; and personal use items such as watches, calculators, health care products, games, and toys.

EIA was founded in 1924 and currently has a membership of over 1000 corporate manufacturers represening the full spectrum of electronics products. Individual members relate directly to the national association without any intermediate structure. Membership is first to the general association, and then to one or more of the following five groups which reflect different aspects of the industry: Consumer Electronics Group; Information and Telecommunications Technologies; Industrial Electronics, Components, and Government. Within EIA's structure, there also exists the Electronic Industries Foundation.

Most linkages and contributions to vocational education occur through the Consumer Electronics Group (CEG) and its component Product Services department. The department functions with three core staff, who are aided by several education and service consultants, plus occasional consultants who do most of the teaching in seminars and who author educational materials. Almost all activities in support of vocational education are funded from the association budget. The mission and strategy of CEG Product Services includes a leveraging principle whereby its limited resources are deployed to enhance the capacity and capability of other agencies and individuals to perform more effectively.

Activities Related to Vocational Education

CEG Product Services' training activities relate extensively but not exclusively to formal secondary and postsecondary vocational education. For example, many workshops are conducted to upgrade the skills of practicing technicians. However, provision is made for vocational education personnel to participate in these workshops on a limited basis.

Within the scope of vocational education, training activities described in this report are as follows:

- Textbook Development and Production
- Electronics Training Curriculum Development
- Videocassettes and Workbooks
- Bridge Program Videocassettes
- Program of Excellence and the Electronic Industries Foundation
- Workshops for Upgrading Electronics Instructors
- VICA Program
- Technicians' Seminars and VCR Resident Program

Assistance to vocational education centers around two premises. First, secondary schools and 2-year postsecondary institutes and colleges are important sources of electronics technicians. Second, these institutions will benefit in essential ways if the electronics industry assists directly in their program development and improvement.

Textbook Development and Production

Approximately twenty textbooks, along with workbooks and instructors' guides, have been produced through the efforts of the CEG Product Services department in cooperation with technical educators and publishers. Textbook production has an extensive history, and several million copies have been utilized in the electronics training of secondary and postsecondary vocational education programs.

Initiating the activity. Industry's recognition of its own interests led to the textbook development program. It was believed that existing school-based electronics programs were dealing with a lack of current technical content in their instruction. Likewise, extensive and rapid technological change in the industry needed to be more adequately reflected in the technical instruction of young persons in vocational education.

This belief was sufficiently strong for the CEG Product Services department to initiate action and apply some of its own resources. A process was devised whereby interaction with industry experts and vocational education personnel would identify what was needed and the EIA, through its CEG Product Services department, would determine how much could be done and through what means to maximize its efforts through a leveraged approach.

Planning and conducting the activity. A basic strategy is employed by which the association influences the nature of content to be incorporated in textbooks. At the same time, it utilizes a production and distribution system that minimizes the use of its own resources and avoids its direct competition with textbook publishers. Planning for textbook development calls for CEG Product Services personnel to interact with industry experts and electronics instructors from vocational education programs to identify promising topics for textbooks in basic electronics. More intense effort in planning comes from ad hoc committees assigned to the development of each textbook. These ad hoc committees, together with an author, are responsible for developing the outline for each textbook. Authors then prepare manuscripts that are reviewed by the ad hoc committees.

An interested publisher is also brought into the partnership at this stage with an agreement to produce, promote, and sell the textbooks. Exact arrangements vary in these partnerships. In some cases, the principal linkage is between an approved author and a publisher who work with an outline which has been approved by an ad hoc committee. Other arrangements call for increasingly more participation by CEG Product Services personnel on approval of manuscripts, sharing of royalties and other matters. Regardless of the precise arrangements, the entire textbook effort emanates from EIA's desire to make technologically up to date and appropriate texts, student workbooks, and instructor's manuals available and accessible to vocational electronics programs. The strategy must also allow EIA to maximize its influence within the definable limits of its own resources. Thus, a few CEG Product Services Department professionals and volunteer ad hoc committee members are able to link with the expertise and investment capabilities of a major educational book publisher to achieve this purpose.

Primary audiences for the textbooks include both secondary and postsecondary students of electronics. This broad application has been possible because of the fact that the materials are basic texts in several facets of the electronics field making them applicable at basic levels in both secondary and postsecondary vocational programs.

Benefits of the activity. The electronics industry, through the efforts of the CEG Product Services Department, has gained from the training of electronics workers who have more appropriate and up-to-date skills. The vocational programs of secondary and

2-year postsecondary institutions have had a steady and coordinated industry-driven effort to provide useful materials at little special cost to the educational system.

Facilitators and inhibitors of the activity. EIA has been able to use its limited budget to catalyze an effort that has caused several basic electronics textbooks, instructor's manuals, and student workbooks to be utilized in vocational education programs. Likewise, this input has made it possible for commercial publishers to produce and widely market the materials.

Electronics Training Curriculum Development

For the past 5-years, the CEG Product Services department has been actively involved in the development of a 2-year training curriculum for consumer electronics. This effort has been closely coordinated with textbook development and, to some extent, has guided textbook development.

Initiating the activity. As in the case of textbooks, the main reason for the curriculum is to influence the content of vocational education programs in electronics. The CEG Product Services department launched this effort by enlisting the cooperation of several state departments of education, primarily in the Midwest.

Planning and conducting the activity. CEG Product Services' staff, their consultants, and about eight electronics educators from several states met to develop a step-by-step curriculum. The particular focus was upon a 2-year training curriculum in consumer electronics. EIA provided the cost of their staff and consultants, and the participating states provided the costs for the several educators who joined in the effort. A trial installation was carried out in one Chicago school to determine the usefulness of the curriculum. It served as a laboratory for observing and making necessary adjustments. Informal feedback on the curriculum in other locations provided further insight for its further refinement.

The curriculum is made available free of cost to schools by EIA. Limited resources restrict advertising and promotion of the curriculum to some extent. Its adoption has been encouraged by the efforts of advocates within particular states. Primary audiences for the consumer electronics training curriculum are students in postsecondary vocational institutions, and to a lesser extent secondary institutions.

Benefits of the activity. Secondary schools and postsecondary vocational institutions benefit through the availability, free of cost, of an electronics training curriculum for their programs that has been developed by experienced persons who are up to date in knowledge of needed skills. The industry has the assurance that students who complete this curriculum will probably be more skilled employees.

Facilitators and inhibitors of the activity. Excellent cooperation from some states has caused a widespread adoption of the consumer electronics training curriculum within those locations. Likewise, adoption is somewhat inhibited in other states that seem to lack inside advocacy and interest of education leaders. Association support for the free distribution of the curriculum has prevented problems of states affording it. The low budget associated with this program has limited its promotion in some localities.

Videocassettes and Workbooks

The CEG Product Services department has coordinated the development of a series of technical videocassettes whose initial purpose is to upgrade electronics technicians. These videocassettes, from 20-30 minutes each, are viewed by technicians as needed for quick refreshers in some component area of electronics. Quite unintended was the fact that technical instructors discovered these tapes and acquired them for use of students. This in turn led to a further development of workbooks that would be useful for student exercises in relation to the various topics.

Initiating the activity. Originally, it was thought that textbooks in videocassette form might be useful for technicians to quickly update themselves as needed. This was set aside in favor of a more segmented approach to various specific subjects which were considered most important by practicing technicians. Their later adoption by schools came through the appeal of a visual approach to instruction. CEG Product Services professionals recognized that this was an incomplete approach, and initiated an effort to produce workbooks and thereby add to the educational value for secondary and postsecondary vocational students.

Planning and conducting the activity. As in other educational productions, ad hoc committees are utilized to develop the videocassettes. Authors are contracted to prepare scripts, which are then reviewed by the committees. Professional film crews with prior experience in electronics develop the videocassettes. The videocassettes are then produced in quantity and distributed by EIA on a sales basis to technicians and consumer electronics firms for use by technicians.

Workbook development is at an earlier stage, but publishing and sales is through a commercial publisher. Educators can acquire both workbooks and videocassettes from the publisher, with tapes being supplied to the publisher by EIA for distribution at cost only.

Benefits of the activity. A primary benefit to the industry is that a product originally developed for use by practicing technicians is also useful in schools for the training of future technicians. Vocational education has gained through the acquisition of new mediated materials, along with specially designed workbooks for students as they utilize the videocassettes. It was difficult to assess the impact of the combined videocassette--workbook venture as it is at an early stage. A possible inhibitor exists in what could be the questionable use of videocassettes without the workbooks.

Bridge Program Videocassette

A 17-minute videocassette entitled, "Electronics--Your Bridge to Tomorrow" was produced for distribution, primarily to secondary schools.

Initiating the activity. An urgent need for consumer electronics technicians supported the idea to provide secondary students with correct information about the industry. EIA, therefore, initiated a videocassette for this purpose.

Planning and conducting the activity. The CEG Product Services department identified an ad hoc committee of industry representatives to identify concepts and draft script content. The videocassette was then produced by professional media developers with the guidance of CEG Product Services staff. Distribution of the videocassette is through Modern Talking Pictures.

This videocassette is a contribution to education by the electronics industry under the auspices of EIA through its CEG Product Services Department. Association costs approaching $250,000 went into this production. The videocassette is offered free to schools, including its distribution costs. It is not copyrighted and schools are free to make copies for their use. If desired, schools may also purchase the videocassette.

Benefits of the activity. The videocassette is a good way for young persons in schools to become acquainted with the field of consumer electronics at an age when it can be considered as one option in career planning. For the schools, the videocassette provides a cost-free input to their library on career planning.

Facilitators and inhibitors of the activity. A major facilitator of this activity is its convenient and cost-free access to schools. It was reported that this videotape is among the most frequent requests of films from Modern Talking Pictures. Inhibiting this activity is its initial high cost to EIA. Although the current message in the tape is considered to be useful, some of the equipment examples and surrounding scenes in the tape are considered to be somewhat out of date.

Program of Excellence and the Electronic Industries Foundation

This complex program is designed to put electronics programs into secondary schools with the assistance and support of EIA. The CEG Product Services department initially undertook this idea in the Marie Curie School in Chicago several years ago. The same basic idea is currently being offered to other schools, through a coordinated approach of the CEG Product Services department and the Electronic Industries Foundation of EIA.

Initiating the activity. The original and continuing impetus for this effort is to initiate high school programs of excellence in electronics. The original installation at Marie Curie High School, Chicago, Illinois, was initiated through a close working partnership between the CEG Product Services department and interested Chicago school officials. EIA members in the Chicago area have also been very instrumental in the working of this program.

Expansion of programs to other schools, currently at an early stage of development, continues with the same interest by EIA. This expanded effort will extend beyond the CEG Product Services department's resources, and a revised arrangement for initiating and monitoring will be carried out by the Electronic Industries Foundation. Product Services department professionals will continue to provide substantive input to program development as resources permit.

Planning and conducting the activity. In the Marie Curie School program, CEG Product Services Department personnel assisted Chicago school officials with curriculum development, equipment, and electronics instructor selection and training. Chicago schools put extra money into the program as a pilot venture. Twenty-eight students were selected from the entire Chicago area for a 4-year program which would provide academic courses plus a specialization in electronics. CEG Product Services staff monitored the program, and EIA members from that area provided various kinds of guidance and assistance along the way. Special internships in industry settings were provided to students during the last semester of their senior year. Students were paid for their work during these internships. This program was expanded after the first year to admit from 60-70 students per year. It continues to function with support from EIA.

An expanded version of the Excellence Program is now being offered to other schools which meet certain requirements. In broad design, these programs will offer much the same kind of support for curriculum, teacher training, equipment, and industry support and cooperation that has characterized the Marie Curie

School program. A funding partnership is proposed, involving the joint contributions of equal portions of funding from the Department of Labor, Department of Education, and the state in which a particular school is situated.

Here the role of the Electronic Industries Foundation (EIF) becomes important. EIF was created by EIA about a decade ago to utilize external funds to train and place handicapped persons in the electronics industry. The foundation's efforts have continued and expanded since that time. It has also engaged in a variety of youth training programs,

The expanded Excellence Program will increasingly be administered from the association by EIF because of its assigned responsibility and capacity for externally funded efforts, and that arrangement will prevail during future Excellence Program efforts. The CEG Product Services department staff and others will continue to provide substantive guidance to program development, assist with facilities and equipment decisions, and in the selection and training of electronics teachers.

Benefits of the activity. Several years of experience at the Marie Curie School indicates that dropout rates for students in the electronics program are much lower than the prevailing rates for the entire Chicago school system. Employment of graduates is at a very commendable level, as a result of the intense training, and also because of the internship programs during the final year. For example, the entire first group of interns was hired by their sponsoring employers during the internship experience.

Facilitators and inhibitors of the activity. Perhaps the most positive force is the partnership that exists between the electronics industry and the school system in developing an electronics technology program. No particular inhibitors were indicated.

Workshops for Upgrading Electronics Instructors

The CEG Product Services department has conducted technical workshops for electronics instructors for several years. This program has expanded from 6 or 8 at first to this year when between 10 and 15 workshops will be held. Each workshop is 1 week long and enrolls from 15-25 selected electronics instructors from one state.

Initiating the activity. The electronics instructor training workshops aim at the technical upgrading of regular electronics instructors from secondary and postsecondary vocational programs. The CEG Product Services Department initiates these programs by inviting all states to participate, and selects those that will send instructors. Each participating state selects instructors to be trained and secures a location for the workshop to be conducted.

Planning and conducting the activity. Planning for the workshops begins with the CEG Product Services department staff and workshop instructors determining the scope and topics to be offered. For example, 1987 workshops will be on the subjects of digital and microprocessor. Expert consultants from both industry and education assist staff with the plans and details for the workshop programs. Letters are sent to the state directors of vocational education in the respective states, inviting them to participate in a statewide workshop, to secure participants and arrange for a vocational school location that will permit hands-on instruction.

The CEG Product Services department is totally responsible for conducting the workshops. Equipment kits are provided to the participants, and EIA employs three instructors to teach the workshops. Credit toward teacher certification is awarded to those persons who complete these workshops.

Benefits of the activity. These workshops allow 15-25 electronics instructors from each participating state to receive 5 full days of technical updating by industry experts. The participating instructors are also given specially designed kits that will assist them in conducting training that is cost effective and efficient. In return, the industry has some reasonable assurance that more highly trained electronics instructors will prepare better technicians for employment in the industry.

Facilitators and inhibitors of the activity. Although participation by states is increasing, there is a marked contrast in the reactions of states. On the one hand, some states extend EIA's resources by contributing to the funding of additional workshops. In contrast, other states do not respond, or may agree to participate but fail to provide the necessary arrangements. There have also been instances where the invitation to the state does not reach the appropriate persons.

Vocational Industrial Clubs of America (VICA) Program

The CEG Product Services department has sponsored the national and international levels of VICA's Electronics Products Servicing Contest for about the past 10 years.

Initiating the activity. The mutual interests of VICA and EIA were identified by the CEG Product Services Committee. As a result of this early dialogue, it was determined that EIA's interest in future technicians warranted its support and technical expertise in the national and international contests.

Planning and conducting the activity. At the national contest, the CEG Product Services department funds the contest by providing necessary equipment and providing, at industry expense, 22 representatives from manufacturers of electronics equipment.

Additionally, the Executive Director of CEG Product Services is a member of the National VICA Advisory Committee.

At the international level, CEG Product Services provides the costs of national winners to attend and participate in the international contest, plus the cost of one professional advisor to accompany the contestant. This effort led to a American contestant winning the international contest. The Executive Director of CEG Product Services is also active at the international level, serving as chairperson of VICA's International Skill Olympics Committee, and as the U.S. delegate to the World Congress on Vocational Education.

Benefits of the activity. Direct participation in VICA's national and international contests brings electronics industry and EIA representatives into direct contact with electronics instructors of schools. Industry-set standards for the VICA contests indirectly influence the instruction in schools.

Facilitators and inhibitors of the activity. Electronics industry representatives are able to reflect currently needed electronic skills in the contest standards and specify the competitive events. VICA thus is able to draw on a wide range of technical expertise at no cost. There is a reported mixed reaction among some EIA members regarding the value of their association's contribution. The concern increases when resources are invested in a single national winner's sponsorship for the international contest.

Technicians' Seminars and Video Cassette Recorder (VCR) Resident Program

In one part of this activity, some electronics instructors from secondary and postsecondary vocational programs are invited to participate in seminars designed mainly for industry technicians. Another part provides material support to school electronics departments for the purpose of training practicing electronics technicians.

Initiating the activity. The CEG Product Services department initiates this activity by proposing to provide VCR training seminars for members of various electronics service organizations.

Planning and conducting the activity. The CEG Product Services department staff, along with designated consultants, determines needs for the upgrading of employed VCR servicers and designs programs in accordance with those needs. Training sites, equipment, and necessary training materials are assembled. Program announcements are mailed to EIA members. Interested persons are then selected and participate in the courses. Two places in each workshop are reserved for invited electronics instructors from high schools.

A second feature of interest to vocational education is the establishment of selected schools to provide VCR training to industry technicians. In this instance, EIA provides the necessary equipment for the training programs and to update it as necessary. The participating schools then agree to provide three workshops for technicians per year. In return, the schools may use the equipment for their regular in-school program.

Benefits of the activity. Participating high school instructors are trained in the latest VCR technology. Participating resident schools are kept current in VCR training equipment that is applied to their courses.

Facilitators and inhibitors of the activity. Demand for training by industry personnel is probably a chief facilitator, along with the CEG Product Services department's capacity to organize and carry out effective training. A major inhibitor is cost as training of this nature is expensive.

Potential Future Contributions to Vocational Education

Demonstrated evidence of EIA's commitment to training and its recognition of efforts undertaken to that end is a 400 percent increase in the CEG Product Services department budget during the past 3 years. Practical constraints will no doubt preclude further increases of this magnitude in the future. Further expansion is likely to occur because of a recognition of the importance of technician training in electronics with the nation's secondary and postsecondary vocational education programs. However, expansion will be more dependent upon cost-sharing than has been the case so far.

Likely future directions include the continuation and revision of existing activities in addition to some new initiatives.

Electronics curriculum and textbook development is a likely future target. The present curriculum is a 2-year design for basic electronics that could be applied either in secondary or postsecondary vocational education programs. Present textbooks are geared to this basic level of training. The advent of increased breadth and complexity of electronics technology requires that some action be taken to lengthen some training, perhaps through articulation between the secondary and postsecondary levels of education. The curriculum and textbooks may need to extend over 3 or 4 years to reflect this need for more training.

Workshops for electronics instructors have increased dramatically. EIA's capacity for further expansion here is dependent upon a revised linkage with states, whereby the public educational system assumes a greater share of the cost of running workshops. EIA envisions no problem with a marked expansion if its fairly constant resources could be extended by the education side picking up a greater share of the operational costs.

An update of the Bridge Program videocassette is considered to be quite important. However, this requires heavy funding to achieve the level of quality desired in a career guidance film.

Program of Excellence, which will work directly with electronics training program development, has much potential for expansion. That will depend mainly upon the new proposed linkage between the Departments of Labor and Education, and the respective states to provide their respective shares of the resources. EIA, through the Electronic Industries Foundation, has demonstrated its commitment to move forward. The experience of the CEG Product Services department is also ready to assist this program with its technical input to program development.

EIA's most direct linkage to education is from its CEG Product Services department to the state departments of education, more specifically the divisions of vocational-technical education. There has been some difficulty establishing this linkage in some states, while in others, it is quite strong. This linkage is considered to be vital to the working of an effective partnership. Informal meetings have occurred between CEG Product Services professionals and some state directors, and more contacts of this type would be favored by the association.

Labor Market/Changing Technology Information to Vocational Education

Several trends and conditions are observable within the electronics industry that have an effect upon the urgency for training technicians. One is that many consumer electronics firms are operated by persons nearing retirement, and they are not being replaced. Another is the tendency for persons to move through consumer electronics to other forms of employment such as manufacturing, technical training, and engineering. The low rate of pay contributes somewhat to this movement. Yet another is the expansion of consumer electronics, caused by new products, and the fact that electronics permeates most other industries and that ever higher levels of technology are adding to the demand for more highly trained consumer electronics technicians.

EIA does not formally collect information about labor market trends and the effect of changing technology. They utilize secondary information, primarily from the U.S. Department of Labor for their projections. For the most part, this information is viewed to be quite reliable.

It is perceived that more accurate studies of labor demand and changing technology could be helpful. However, the present and likely future condition regarding available resources will cause EIA to continue to rely mostly on externally collected information for their projections. For these reasons EIA is not a likely source of formally collected and assembled information about labor market changes and the effects of changing technology.

In spite of this, vocational education can and does benefit indirectly from the industry's knowledge of what should be taught. This occurs through CEG Product Services efforts to provide direction in curriculum and instructional materials, in the training of instructors, and in the establishment of new electronics training programs. In each case representatives from industry and education make collective judgements based upon their observations and experience. EIA, through continuation and expansion of its training efforts, is interested and committed to bringing such knowledge to more persons within the vocational education community.

FOOD MARKETING INSTITUTE

The Food Marketing Institute (FMI) was organized in 1977 by a merger of the Supermarket Institute, Inc. and the National Association of Food Chains. Its membership consists of over 1,300 food retailing and wholesaling companies. A staff of approximately 75 persons is employed at its headquarters in Washington, D.C.

The FMI is a nonprofit trade association that conducts research, education, and public affairs programs for its member companies in the United States and 40 other countries around the world. The 1,200 U.S. companies operate approximately 17,000 food stores. Most of FMI members are independent supermarket operators or small regional firms. Their combined sales total about $130 billion per year, which amounts to about one-half of all grocery sales.

FMI claims its most important goal is to serve as a "purchasing agent for the customer." It also seeks to "guarantee that food products are available in convenient and sanitary locations at the lowest possible cost." The institute serves its member companies in several ways by: (1) conducting research on a variety of industry concerns, (2) serving as a major information service on all aspects of food distribution, (3) representing the industry before congressional and regulatory agencies, (4) serving as the voice of the food distribution industry to government, the news media, and the general public, and (5) developing consumer education programs and materials.

Activities Related to Vocational Education

FMI has been engaged in a number of activities that are of value to persons planning and operating vocational education programs in our public high schools and postsecondary colleges and institutes. Some of the activities were initially developed to meet a recognized need within the industry and later proved valuable to vocational educators as well, whereas other activities were conducted specifically to serve the needs of both educators and industry members.

The major activities identified that have contributed significantly to the operation of quality vocational education programs include the following:

- Development of printed instructional materials
- Development of mediated instructional materials
- Providing technical resource personnel
- Development of a Management Uniform Sanitation Training (MUST) Program
- Development of a cashier's aptitude test

Development of Printed Instructional Materials

FMI has developed a number of printed publications that have been useful to both the food industry and to educators including vocational educators. These materials include the following types of publications: Careers in the Supermarket, The Big Brown Bag, and Food Marketing Facts.

The Careers in the Supermarket booklet is an attractive, well-designed and illustrated, 22-page 2, 3 or 4 color publication. The publication describes the wide range of careers available within the food industry. The jobs described include the following types of positions: stock clerks, checkers or cashiers, meat cutters, department managers, warehouse positions, store managers, truck drivers, and data processors. It also describes and lists many of the training and educational opportunities available in the field of food marketing and distribution. Designed for use by teachers and counselors at the high school level, the book lists the types of 1-, 2-, and 4-year courses of study available at 46 different community colleges and universities. Single copies of the careers booklet are available free to anyone requesting it and multiple copies are available at a very reasonable price.

The Big Brown Bag is another booklet that is well illustrated and attractively designed. The focus of this publication is on the economies of the American food system. The 64-page booklet contains teacher's information and 23 student activity worksheets that are targeted for the upper elementary and middle school years. It was reported by FMI staff that some high schools also utilize these materials. Several educators were involved in the development of this booklet which addresses topics such as where food comes from, how food prices are determined, and how to be a good shopper. FMI's goal in producing the booklet was to teach some basic economic facts about the food industry as well as to hopefully interest some students in careers within the food industry. Copies of this publication are available from the Food Marketing Foundation.

The Food Marketing Facts is a folder containing factual information about various aspects of the food industry. Although this information is produced primarily for use with the news media, the factual information contained about such things as food prices, food safety, competition and profits, marketing costs, and new technologies within the industry is also very useful to home economics and marketing education teachers.

Initiating the activity. The development of curricular and other types of informational materials is typically initiated by the Institute staff or its Board of Directors. This type of development usually occurs in response to a recognized need within the food industry. For example, the booklet on Careers in the Supermarket was produced in recognition of the need to have a good supply of high quality workers for the industry. Approval for conducting this type of activity is given either by a subcommittee of the Board or by the Board itself.

Planning and conducting the activity. The planning for most of the material development activities is done by FMI staff members. Staff usually outline the basic purpose and scope of the activity and submit it to the Board of Directors for their approval. Once approval is obtained, the staff typically assemble a group of technical advisors to oversee the development process. It is at this point that educators are often involved in the development and/or review of the materials developed. For example, when The Big Brown Bag was developed, they sought the involvement of persons who were recognized as experts in the area of economic education.

FMI typically seeks the involvement of professionals in the area of concern, so as to assure the production of high quality and unbiased materials. Whenever possible, they also seek the endorsement of appropriate professional groups through the involvement of their experts.

The financial resources and usually some of the staff resources needed for these activities are provided by FMI. Depending on the particular activity, FMI may also draw heavily on the expertise of persons from professional groups such as the International Bakery Association or governmental agencies, such as the Food and Drug Administration.

The target audience for their materials varies widely depending upon the particular publication being developed. Most are designed to serve some specific industry need such as employee training. Often this type of material can also be used by high school or postsecondary level vocational teachers. Most of the development projects are completed within 1 budget year, but some like the Careers in the Supermarket booklet have extended over a 2- or 3-year period.

Benefits of the activity. Both the food industry and educators, including vocational educators, benefit from FMI's development of these materials. The food industry benefits by increasing the number of students who will consider the supermarket industry as a career, increasing students understanding of the food supply and distribution system, and the improved public relations that results for the industry.

The FMI staff believes that its in the long term interest of the industry that people understand agriculture, basic consumer economics, the careers available, and how the food system works. The benefits to educators include high quality resource materials available for instructional and counseling purposes and the availability of these materials at low cost making it easier and more feasible to teach a good unit on the food industry.

Facilitators and Inhibitors of the activity. The major facilitating factor for this type of activity is having a board of directors who understands the need for such materials and is willing to budget money for the activity. The major inhibitor to this type of development activity is identifying exactly the needs of the intended user. The FMI staff would welcome more input and recommendations from vocational educators regarding what their needs are and the type of materials that would be most useful to them.

Development of Mediated Instructional Materials

FMI has produced 25 videocassettes on various topics relating to the work of employees in supermarkets. Five additional tapes are being produced in 1986. Sample topics include: (1) techniques of alcohol management, (2) merchandising the deli, (3) bagging groceries-paper, (4) produce preparation, (5) building effective displays, and (6) evaluating fresh seafood quality.

Literature describing the tapes indicates they have been a very popular educational offering. The videocassettes are available to both members and nonmembers. As with the printed materials described earlier, these materials have been developed specifically for training employees of FMI member companies. Most if not all of the tapes would also be suitable for use in a high school or postsecondary marketing education or commercial foods program.

Initiating the activity. The need for this type of mediated instruction is identified both by the staff of the institute and by a special committee of members who help identify the titles needed. Members of this committee also review the drafted scripts and help with the writing and overall development process.

The production of the videocassettes was initiated at the request of FMI members who wanted to have in-house training materials so that their employees would not have to spend time and money traveling to training meetings. All of the videocassettes come with instructor guides and workbooks, if needed. Videocassettes have become very popular because of their quality and relatively low cost ($50 for members up to $195 for nonmembers). Vocational educators wanting to use videocassettes may be able to borrow them for free from local supermarkets or other food stores. The development of videocassettes has been a major thrust for several years. For example, nine new videocassettes will be developed in 1986. Approval for carrying out this type of development work is given by the board of directors.

Planning and conducting the activity. Staff of the FMI gave leadership to planning and conducting this activity. They developed the overall concept of producing an ongoing series of videocassettes on many aspects of the food industry. For each videocassette that is produced, a technical review committee of members that advise the FMI staff and critique the script is organized. The actual production of the videocassettes is done on a contract basis with a local producer. To date there has been no involvement of vocational educators in the production of these videocassettes. A management interviewee indicated that there is tremendous potential there but it hasn't been initiated by vocational educators or the FMI staff.

The actual use of the videocassettes occurs within the member companies and the educational institutions that need them. All that is needed is a person who has had some experience in conducting educational programs. A printed leader's guide is sent along with the videocassettes; subject matter expertise is not really needed. The videocassettes are used at the local level by store owners, managers, or educators. The skills addressed by the videocassettes are not competitively sensitive so employees from several grocers may be brought together for training purposes. The most important factor in using the videocassettes is to have an instructor who has experience and expertise in conducting this type of training program.

Some of the videocassettes are suitable for employees other than those in a grocery store. For example, the tape entitled "Techniques of Alcohol Management" is appropriate for supermarket, convenience store, and tavern employees. The videocassette on "Building Effective Displays" could similarly be used by many types of retail stores. It was suggested that vocational schools and community colleges could offer a valuable service to local grocery stores by conducting presentations and/or courses using these tapes on a regular basis. Some of the smaller stores do not have the training expertise needed or a sufficient number of employees to justify conducting their own in-house program.

As with the printed materials, FMI often seeks the involvement of companies in the area of concern to gain both technical expertise and the endorsement of appropriate groups.

Some of the companies that FMI has worked with include the following: Quaker Oats Company, Kraft, Ralston Purina, Duracell, and Stroh Brewing Company. These companies not only cooperate and provide technical expertise but also may provide some funding for the effort. Because the videocassettes are filmed in actual grocery store operations, local member operators also assist by providing the necessary locations.

The primary target audience for these materials is the food store employee of member companies. A major secondary audience, however, is the vocational-technical student who is learning about the commercial food industry.

The production of their videocassettes takes an average of about 6 months. Most videocassettes average 15-20 minutes, with discussion taking another 15-20 minutes.

Benefits of the activity. FMI feels that the food industry benefits by increasing their employees productivity and improving quality control procedures. The vocational education community benefits from having available materials that can help provide subject matter expertise on a wide variety of topics.

Facilitators and inhibitors of the activity. The only inhibitor is the cost of production involved, but that is minor compared to the cost savings that accrue to member companies. The major facilitators are the identification of training needs by member companies and the technical and financial support provided by cooperating manufacturing firms. The membership review committee is also very helpful in assuring that the videocassettes are technically accurate and of the highest quality.

Providing Technical Resource Personnel

Whereas the FMI national office does not plan or coordinate these activities in any way, local store owners and managers frequently serve as guest speakers for school and college classes, host field trips, and participate in career days. These activities are usually arranged on an informal basis at the local level. FMI may supply reference materials to the local grocer.

Initiating the activity. This type of activity is almost always initiated by a school teacher or counselor who wants assistance with some educational activity. The request is usually handled by the store owner or manager. Members are usually pleased to assist with this type of activity because it provides an opportunity to inform students about the industry as well as to explain the various career options open to potential future employees.

Planning and conducting the activity. Generally very little planning or preparation is needed for conducting this type of activity. The store owner or manager can give approval and is usually the person who conducts the activity. They may outline their presentation and take along some handout materials but that is usually the only planning needed by the FMI members. The educator takes responsibility for making the initial contact, scheduling the event, and any other arrangements that may be necessary.

Usually little or no funding is needed for this type of activity. The local grocer may provide some funding for multiple copies of materials used. If the students are bussed to the supermarket the school takes care of the transportation cost involved and vice-versa.

The primary audience for this type of activity are high school students and 2-year postsecondary students. The amount of time involved varies widely depending upon the particular nature of the activity.

Benefits of the activity. The major benefits for the industry are that students will know more about how the food industry works and such activities are believed to be helpful in attracting workers for the industry. Vocational education benefits by having their students learn firsthand about the food industry and the many career options available.

Facilitators and inhibitors of the activity. The major facilitator of this type of activity is the vocational educator who requests assistance. Its very unlikely that the grocer will initiate this type of activity, but it is very likely that he or she will respond positively to any reasonable request. The main inhibitor is that this activity may lack the necessary contacts so that appropriate arrangements can be made.

Development of a Management Uniform Sanitation Training (MUST) Program

The MUST program is a sanitation training program for food handlers. The MUST training program includes the following materials: a student's workbook, an instructor's manual, a videocassette (this is also available on film), and a set of tests. Persons who train food handlers using this program have to be professionally trained and certified to teach the program. The program can be offered in-house by a company; however, it's most commonly delivered by a team consisting of one food handling expert and one training professional from a university or college. The trainers must be qualified so as to assume a high standard of quality control leading to certification of the trainees as food handlers.

Initiating the Activity. FMI initiated this program because a group of members identified a need common to most members and asked the Institute to develop a high quality program. Maintaining good sanitation control is extremely important to all workers in the food industry. This project was a major undertaking which required approval by the board of directors because of the time and cost involved.

Planning and conducting the activity. The staff of the Institute assumed a major leadership role in developing the MUST program. Members who had helped identify the need for this program were asked to serve on a review committee during its development. Because of the nature of the problem being attacked, FMI also elected to involve personnel from the Food and Drug Administration (FDA) throughout the development effort. As a result, food industry personnel who complete this training program satisfactorily, also meet FDA requirements.

FMI also has a professional food technician on their staff, who gives specific leadership to the effort. Vocational education personnel were not involved in the planning or development phase of this effort. Vocational educators have gotten involved in using the program with many of their students.

The major resource used in developing the MUST program were the technical experts from the FDA who were extensively involved in developing the videocassette script and associated instructional materials. The financial support needed was provided by FMI.

The primary target audience for these materials is the store-level employee and prospective employee. It is a generic food handling program that applies equally well to persons who work in restaurants, commercial feeding establishments, and all types of food stores. The program is used in a number of secondary and postsecondary vocational programs. Development of the MUST program took nearly 2 years, and use of the complete program in training takes several weeks.

Benefits of the activity. The Institute benefits greatly by helping their member companies prepare qualified food handlers for their stores. This in turn means a reduction of food spoilage, a reduction of customer complaints, and a reduction of financial losses that would otherwise occur.

The vocational education community has benefited from using the excellent materials that were developed by FMI in their instructional programs.

Facilitators and Inhibitors of the activity. The major facilitator associated with this project was the availability and cooperation of the FDA personnel. The biggest inhibitor to this type of activity was the cost involved. It was a very expensive project and proved difficult to obtain budget approval.

Development of a Cashier's Aptitude Test

FMI undertook the development of a cashier's aptitude test, which is designed for use with prospective job applicants. It has been designed to identify the type of skills that tend to produce good cashiers.

Initiating the activity. This activity was initiated by the Institute staff at the request of many members of the association who were dissatisfied with the commercially available tests. The FMI Board of Directors gave its approval to develop a test that would meet members needs and appointed a review committee of members to guide the project.

Planning and conducting the activity. Staff at FMI did some of the preliminary work but the detailed development work was carried out by an external group of human resource specialists. In addition to their own review committee of members, FMI also assembled a professional review panel. The professional review panel was charged with the responsibility of reviewing and carefully evaluating the test so as to prevent bias toward any group. FMI was seeking approval of the test by the Equal Employment Opportunity people. Whereas that did not happen per se, the nature of the group assembled should make it possible for the test to withstand any challenge that might be made.

The test is designed for local administration by FMI member companies or by educational institutions. Anyone who has some knowledge of administering tests, such as school teachers or counselors, can use it. Although no vocational educators were involved in the test development phase, many marketing education teachers administer the tests to their students.

Funding for the development of this test was provided entirely by the Institute. The target audience for use of this test are job applicants for cashier positions. Administration of the test requires about 1 hour but its development and extensive field testing required about 3 years. Data was gathered to prove its job relatedness and effectiveness.

Benefits of the activity. The members of FMI benefit most by the availability of a reliable screening test that can be administered to prospective job applicants for cashiering positions. Use of this test has reduced the amount of personnel turnover. Benefits to vocational education include the availability of a well-developed aptitude test that vocational educators can administer to students who want to know how well they could handle a cashering job.

Facilitators and inhibitors of the activity. The major facilitator for this activity was the recognized need by many member companies for this type of test and their willingness to assist with the field testing that was necessary.

The factors inhibiting this activity were the long time period involved in test development and the extensive field testing needed to gain evidence of its validity and reliability. Considerable effort was expended to follow EEO guidelines for the development of this type of screening instrument.

Potential Future Contributions to Vocational Education

FMI staff reported that their ability to make future contributions to vocational education is likely to remain about the same. Staff indicated that the development and updating of instructional materials is an ongoing priority.

When staff were asked what contributions their association could make that would be the most beneficial to vocational education, their response was providing information to vocational educators regarding the type of employee skills that the industry needs. The industry could flag the fact that more employees are needed that have bakery training, deli training, or whatever the shortage area is. The type of activity would also be the most beneficial to FMI members. Because of the declining numbers of high school students, the competition for employees from this dwindling supply source is of major concern to the industry.

The primary organizational constraints that limit the activities that the association can support is time and money. FMI is able to carry out a few projects every year but they must be projects of a manageable size. The resources and time available are not such that the institute can conduct several major activities each year.

When it comes to initiating activities, the major problem FMI has is identifying the areas of greatest need and potential impact. They assess the needs of their member companies but would also like to hear from the vocational education community regarding the types of needs they have. FMI would especially like to know what high school students think about the food industry and to obtain suggestions on how to interest students in the industry. They would be glad to cooperate with vocational educators in developing specific projects, programs, or materials that are relevant to their industry. The FMI has many experts on staff as well as member company personnel who would be able to provide the technical expertise needed.

FMI recommends that conversations about the needs vocational teachers have should start at the local level with supermarket operators. Many of these operators will be members of FMI and will report that type of request to the FMI office. Given enough requests and the necessary budget, the needed program or materials are likely to be developed.

The authority and responsibility for making linkages with vocational education programs ultimately resides with member companies. FMI is more responsive to requests for a project if it has the support of local supermarket operators before it reaches the FMI Washington Office. The Senior Vice-president for Research would be receptive to ideas presented directly to his office, however, FMI would ask a board member from the requester's area to review the proposal and flesh it out before proceeding further with the idea.

FMI would prefer to work with some type of vocational education umbrella group that represents more than just a single institution. In many respects the larger the group involved the better. FMI looks at each request in terms of the mileage they are going to get out of the project or materials. If materials can be used statewide or nationally, they consider it to be a better investment of their funds than it would be for strictly a local effort.

when it comes to obtaining funding and other resources for development activities and projects, FMI usually provides the financial support needed. Depending on the nature of the specific activity, it is sometimes possible to work with various governmental agencies and even to obtain some funding from them.

They look to the vocational education community more for ongoing support and operation of a program or use of the materials developed. They want to be sure that there is a definite need for the program and prefer that it be something that will be used over several years as opposed to one time. If they support a pilot program at one institution, they do so with the idea that it will be replicated around the country by many other institutions. The major contribution expected from vocational educators is the human resources needed to effectively implement the program or materials.

Labor Market/Changing Technology Information to Vocational Education

The Food Marketing Institute (FMI) does not collect information about the employment demand for new and emerging jobs in their trade.

Although the association does not formally collect information regarding potential shortages of skilled labor for existing jobs, they do gather some information on an informal basis. FMI staff get a sense of the need for additional workers through their frequent conversations in meetings and phone calls with members. Particular attention is given to possible shortages in developing job areas, where shortages of qualified labor may occur. FMI considers this data to be qualitative rather than quantitative in nature.

Because of the nature of the data available, it is not shared in any formal way. Probably the most sharing of this type of data occurs in discussions between FMI local members and local educators. It is not known whether this data has been used in vocational education planning.

The FMI collects some information regarding the effects of changing technology on the type of job skills needed. Two formal surveys of the managerial skills needed by store managers of the future have been conducted in the last 10 years. They conduct a managerial skills survey whenever they feel changes are occurring that need study. It was emphasized that the food industry tends to promote people from within their ranks rather than hiring them from the outside.

This type of labor market data was not shared with vocational educators. The managerial skills data was shared with all FMI members, but no thought was given to sharing the data with vocational educators. The interviewee indicated that if such data were to be shared, they would need help from vocational educators. FMI does not have mailing lists of vocational educators, nor are they aware of the meetings and conferences that are conducted where such information could be effectively disseminated. Given appropriate opportunities for disseminating the managerial skills type of information, they would be glad to share it with vocational educators. The view was expressed that some community colleges already offer management-level courses designed for food industry personnel.

When asked about the potential for supplying labor market information to vocational educators in the future, an FMI official responded by saying that they would be unlikely to provide specific labor market information. The official said information of that nature would be more valuable if it was gathered at the local or regional level.

FMI at the national level is more likely to study the effects of technological changes on labor needs and the effects of changing life-styles on the types of food purchased. For example, the trend toward the use of more fresh food products is an extremely important one in terms of the job skills needed. This change, however, reflects a change in our style of living rather than any technological changes.

There are also a number of technological changes that need to be studied. For example, the supermarket is being computerized in many ways and this change is impacting on the skills needed by supermarket owners and managers. Another example of change occurring is the processing of beef at central locations rather than locally at each store, hence, there is less need for meat cutters. There is a greater need today for persons who know how to merchandise fresh fish, bakery products, and delicatessen products.

The special arrangements that could be made to assure the future availability of the national trends types of data are (1) they would need to know what type of format the information should be in and (2) they would want one or more opportunities annually to share this type of information with appropriate educational planners.

FMI would be pleased to cooperate with vocational educators and to share any useful data that is available. However, it must be remembered that they do not gather labor market supply and demand data at the national level. The food industry is such a regional and local business national data would be almost meaningless at the local level.

The interviewee also expressed a concern about the declining pool of high school graduates. The labor pool that the industry draws from is getting smaller and smaller and that is of real concern to the industry. Most of the new departments being added to supermarkets are labor intensive departments such as salad bars, fresh fish areas, in-store bakeries, floral departments, in-store delis, and larger fresh fruit and vegetable departments. Meat cutters are no longer needed at the local level; qualified bakers and sea food handlers are needed instead. Grocers need persons who can both handle the produce and merchandise it (provide information for the customer).

The FMI official also expressed a major need for upgrading the skills of many food industry personnel. This type of training could be provided through adult education offerings at the secondary level or by postsecondary institutions. The food industry is a major employer of vocational education graduates.

NORTH AMERICAN TELECOMMUNICATIONS ASSOCIATION

The North American Telecommunications Association (NATA) was founded in 1970, shortly before the creation of a competitive telecommunications industry. From singular attention upon the conventional telephone, what now is referred to as the "interconnect" industry involves transmission of messages and data by satellite, microwave, video, fiber optic, and computer technologies. NATA's membership of over 600 companies includes manufacturers, distributors, contractors, consultants, and users of all telecommunications technology. NATA's entire program has been associated with production, marketing, legislation, regulation and training associated with this new and emerging industry. NATA's link to vocational education is mostly through its National Telecommunications Education Committee (NTEC), which functions as one of four components of NATA's Human Resources Council.

The Human Resources Council was formed in 1984. This council comprises human resource executives from some of the largest telecommunications companies. It functions through four major continuing committees. The Compensation Studies Committee conducts wage and benefits surveys. The General Employment Practices Committee has endeavored to build a job bank for the industry. The Labor Relations Committee relates to collective bargaining agreements and arrangements which are utilized throughout the industry. The final committee, and the one most directly associated with linkages to vocational education is the Education and Training Committee, which has emerged as the National Telecommunications Education Committee (NTEC).

The National Telecommunications Education Committee's origin has two sources. One, is the designation of Education and Training Committee of the Human Resources Council. The other source is a previously conducted joint project between MCI and the American Association of Community and Junior Colleges, called the National Telecommunications Education Council. The impetus for this effort had been for MCI to find trained technicians at a time when only a few programs existed in postsecondary technical institutions. Most programs offered training in conventional telephone technology. Therefore, the project would foster development of telecommunications programs. This committee conducted one annual conference to which technical educators were invited. At that stage, the concept of an effort to develop telecommunications educational programs had gained support, but for a variety of reasons, could no longer function under the previous arrangement. The committee's search for a new home base led to NATA, within the Human Resources Council, thus emerging as the National Telecommunications Education Committee (NTEC).

NTEC functions to encourage the development of telecommunications education and training programs in 2-year postsecondary vocational institutes and in 4-year degree granting colleges and universities. NTEC membership is separate from NATA, and presently numbers about 300 persons and institutions, of which slightly over 200 are from educational institutions. The remainder are human resources executives from electronics firms.

NTEC's justification and strategy are aimed at getting larger numbers of more appropriately trained technicians for the telecommunications industry. The impetus for the education side of the NTEC partnership comes from a growing market for persons who could be most appropriately trained in postsecondary technical institutions.

Activities Related to Vocational education

During its rather brief history, NATA has undertaken several activities in support of vocational education, principally (though not totally) through NTEC. The principal institutional target of its efforts are the postsecondary vocational education institutions, because of the telecommunications industry's requirement for technicians.

NATA and NTEC education and training activities that are relevant to public vocational education include the following:

- NATA trade show and related workshops
- NTEC annual conference
- NTEC review and development committees
- NTEC directory of telecommunications education and training programs
- NTEC newsletter
- NTEC equipment bank

NATA Trade Show and Related Workshops

Brief technical seminars and workshops, usually from 1-2 hours, are conducted as a part of the Annual NATA Convention and Trade Show. Although industry personnel are the primary audience and comprise nearly all the attendance, technical educators are welcome and some do participate. The activity is included here because of an intended development that would target upon technical educators more prominently.

Initiating the activity. The workshops are a natural outgrowth of the convention and trade show, adding a further dimension to the technological updating of NATA members. They are responsive to NATA members' contentions that training of present employees should be offered by the association. Early efforts proved successful and the workshops and seminars have continued.

NATA's membership services personnel initiate the seminars. Ideas for topics are solicited from members through surveys, and general and informal contacts are made with members at trade shows and other events. Nominated topics are prioritized and included in the program as time and resources permit. Formal approval of the programs comes from NATA's president and board of directors, based upon the recommendations of membership services personnel.

Planning and conducting the activity. NATA's membership services personnel are primarily responsible for designing the workshop plans. They are assisted by persons, mostly NATA members, who have been selected as instructors and consultants for the various topics. External consultants are used infrequently on topics of special interest, when the necessary expertise is not available within NATA's ranks.

Funding resources for the workshops are generated through fees for attendees. Different rates apply for members and nonmembers. Another resource is the services of NATA members who serve as instructors on a volunteer basis. Workshop participants pay their own travel and any other expenses associated with attending the workshops. Most of these persons also attend regular convention sessions and the trade show exhibits.

Industry personnel make up the primary and predominant audience for the NATA workshops because the topics relate to their interests. Some technical educators do attend, but they are in the minority. Their primary reasons for attending stems from a desire to be technologically up to date in the telecommunications industry. Other interests include getting acquainted with industry representatives to pursue placement opportunities for their students, and sometimes part-time employment for themselves.

Benefits of the activity. Evidence of industry recognition and appreciation for the seminars has been expressed through increased demand for more programs. This has led to a proposed expansion through weekend seminars that will be held throughout the year.

Benefits to vocational education are limited to the technological updating of a few technical educators at present. Prospects for future benefits may well cater more directly to education interests if workshops are jointly sponsored by NATA state associations and their surrounding NTEC-member technical education institutions. This development would likely broaden the program agenda to include more topics closely related to technician education and training. Likewise, state-level workshops would be more reachable by technical educators, in terms of proximity and cost.

Facilitators and inhibitors of the activity. Interest in training by industry personnel has contributed much to the initial development of this activity. NATA's response capability, including its own staff and member volunteer consultants and instructors has likely made the effort cost-efficient, and relevant to current industry developments. No particular inhibitors to the activity were noted.

NTEC Annual Conference

This conference provides a major and direct linkage between human resources personnel from the telecommunications industry and educators from postsecondary technical colleges and institutes throughout the country. Two annual conferences have been conducted to date, so it is a relatively new activity. The primary linkage here is through membership in NTEC, which can be separate from NATA. NTEC membership comprises human resources executives from industry with technical educators who have a stake in telecommunications education.

Initiating the activity. NTEC annual conferences were started with the chief purpose of promoting and developing technician education in telecommunications. This newly formed industry requires quite different mixes of skills by its work force than had been the case with the singular object was the conventional telephone. The broadened interconnect concept was not being addressed by nearly all prevailing electronics programs in technical institutions.

A planning board within NATA is responsible for determining the conference agenda. The plan is approved by NATA's president and board of directors.

Planning and conducting the activity. The conference activities fall into two types. One type has sessions that have presentations by both industry and education representatives on topics of mutual interest. The other is related to curriculum and management of technical education, and deals with shared views on what should be taught to aspiring telecommunications personnel. Persons representing 4-year degree granting institutions generally meet separately from those who come from the 2-year technician training colleges and institutes. The discussions follow a workshop format with joint working groups centering upon the various themes and topics. NTEC has attempted to gather in various ways examples of curricula to be shared at these conferences.

NTEC's posture regarding the conferences is not to pass judgment on particular concepts and practices, or to take an official stand on any matter. Its function is facilitative, and attempts to create a setting and activities that allow stakeholders in telecommunications education, from industry and education, to have open discussions on topics of mutual interest.

Resources for the conferences are either provided through the volunteerism of participants, or from the dues of members.

Primary audiences for the annual conferences are technical educators from 4-year and 2-year educational institutions that offer telecommunications programs, and human resources executives from the telecommunications industry.

Benefits of the activity. The most likely benefit of the conferences results from an open sharing of views on telecommunications education by industry and education representatives.

Facilitators and inhibitors of the activity. The conferences are aided by the mutually shared levels of interest about telecommunications education on the part of education and industry representatives. The centrality of conference themes that reflect these mutual conferences is also an asset.

NTEC Curriculum Review and Development Committees

These committees are extensions of the professional exchange that occurs during the NTEC Annual Conference, and provide opportunities for industry human resources personnel and educators to explore ideas and share their views about telecommunications education development. The committees in this case are able to meet on a more flexible and as needed basis to achieve their purposes.

Initiating the activity. Review and development committees were initiated by NTEC as a further means of promoting the development of telecommunications education programs in postsecondary technical institutions and degree granting colleges. Overall approval for the committees' activity comes from the NATA's president and board of directors.

Planning and conducting the activity. The core activity is a group of persons with mutual interests regarding some phase of telecommunications education, often times some aspect of curriculum. Emphasis is upon sharing of views and examining evidence of what is occurring. NTEC assists the latter by contacting, through mail and telephone solicitation, examples of curricula and other items which can be distributed and shared through the committee. This provides individual members with ideas which might not otherwise be discovered.

There is no intent to develop and encourage national or even regional or state models for training programs through this effort. It is recognized that curriculum is a local matter. The committees provide a review forum for members to gather and share ideas.

Resources for this activity came from NTEC dues, income from the sale of publications, and from member contributions of ideas and materials.

The primary audience for this activity consists of two groups. One group comprises human resources executives from telecommunications firms, and the other consists of educators from 2-year postsecondary institutions and 4-year degree colleges that grant associate degrees and degrees in some aspect of telecommunications.

Benefits of the activity. The telecommunications industry benefits from the development of an increased number of appropriate telecommunications programs, from which they can hire employees. The principal benefit to vocational education is the interest and direct contribution of qualified industry representatives in the design and development of training programs, and for advocacy of those products.

Facilitators and inhibitors of the activity. This is a voluntary activity and attracts persons from industry and education who have most concern and interest in a particular committee topic. No particular inhibitors were noted.

NTEC Directory of Telecommunications Education and Training Programs

This directory is a comprehensive, descriptive listing of publicly available telecommunications education and training programs in North America.

Initiating the activity. The directory is a natural outgrowth of what and is part of other NTEC-sponsored efforts to collect and share information of mutual interest to industry and education personnel about telecommunications education and training. It is believed that shared knowledge of programs facilitates communications among persons responsible for such programs. The directory was initiated by central NTEC staff and approved by NATA's president and board of directors.

Planning and conducting the activity. NTEC staff solicits inputs of information about publicly available programs by various means. It is limited to publicly available programs that deal with all aspects of telecommunications equipment technology, leaving aside such areas as broadcasting journalism. It also excludes all company in-plant training and modular training courses which are product sales related. All levels of public programs, whether technician or professional, are included. Resources for producing the directory came from the NTEC budget and sales of directories to nonmembers of NTEC.

The primary audiences for the directory would be persons, either from telecommunications firms or educational institutions, who wish to know where telecommunications programs are located in the country.

Benefits of the activity. One principal benefit is to foster an exchange of information among persons representing educational institutions. Another is to provide information to persons from telecommunications firms who may be interested in training for their employees. Still another would be students who aspire to enroll in telecommunications education and training. NTEC hopes to stimulate greater distribution to the latter two groups, as well as to libraries in the future.

Facilitators and inhibitors of the activity. The directory has already proved to be useful with a limited distribution and this accounts for efforts to include more categories and expand the distribution. Inhibitors include the problem of attempting to locate all eligible programs in North America, keeping current on changes in programs, and determining categories to be added to the directory.

NTEC Newsletter

This newsletter was begun within the last year, and two issues have been produced to date. The newsletter is issued quarterly by NTEC.

Initiation of the activity. NTEC initiated the newsletter as a further means of sharing information of mutual interests to stakeholders in telecommunications education and training. Approval of this activity comes from NATA's president and board of directors. Control of the production of the newsletter is within the NTEC staff.

Planning and conducting the activity. NTEC staff solicit input for the newsletter from persons in the field, primarily education and training personnel. Content of the newsletter includes articles on various aspects of education and training, book reviews, meeting announcements, program descriptions, and announcements for faculty openings at educational institutions. Draft articles are received by NTEC staff and edited internally. NTEC staff also arrange for printing and distribution of copies to subscribers.

Resources for the newsletter include NTEC budgets, nonmember paid subscriptions, and the voluntary contributions of persons who prepare and submit articles for inclusion in the newsletter. The primary audience for the newsletter are persons who are directly involved or interested in the subject of telecommunications education and training. This would include human resources personnel from companies as well as educators from 2-year postsecondary colleges and institutes, and 4-year degree granting colleges.

Benefits of the activity. To both public educators and human resources personnel from telecommunications industry, the newsletter provides a means of keeping current in happenings about education and training.

Facilitators and inhibitors of the activity. Perhaps most facilitative is the ease and low cost means provided by the newsletter to inform interested persons in a rapidly changing field. One inhibitor is the limitation imposed by whatever persons in the field will provide for inclusion in the newsletter.

NTEC Equipment Bank

The Equipment Bank is a pioneering effort by NTEC and at present at a pilot stage of development, whose future awaits the outcome of further experience.

Initiating the activity. This activity arises from two conditions. One is the problem of having current and sufficient telecommunications equipment in educational institutions. The other is that telecommunications manufacturers and suppliers are frequently interested in making contributions, or reduced priced sales to educational programs. Matching these two interests does not occur automatically, but without special efforts requires a tedious search by anyone interested in the possibility. NTEC's equipment bank endeavors to broker these interests. The activity is handled internally by NTEC staff with the approval of the president and board of directors.

Planning and conducting the activity. A major challenge has been to determine what kind of brokering arrangement will be of service and still fit within NTEC's limited budget. An arrangement is needed whereby lists of equipment needs by educational institutions can be somehow matched with equipment that is available in some convenient and low-cost manner. At present, these lists are collected by NTEC, assembled and distributed on a geographically proximitous basis to interested parties.

The resources for this effort come from NTEC's budget, as well as from the efforts of the NTEC central staff.

Primary audiences are two groups. One comprises the technical education institutions that desire equipment at no- or low-cost. The other would be manufacturers and suppliers who desire to make equipment available through some special arrangement.

Benefits of the activity. The chief benefit would be to telecommunications education and training programs which have improved and more adequate equipment, resulting in upgraded quality of training for students.

Facilitators and inhibitors of the activity. A major facilitator is that companies do exist that are willing to assist with the equipping of educational programs. Inhibiting the activity at present is the lack of a suitable brokering arrangement that will permit matching of supply and demand for equipment within NTEC's existing resource limits.

Potential Future Contributions to Vocational Education

NTEC's role is somewhat experimental in the sense that its survival depends upon recovering the costs of its activities, through member dues, conference fees, and some publication sales and subscriptions. Assuming the success of this arrangement, NTEC envisions several opportunities for continuation and growth in its activities.

The NATA-sponsored workshops, which currently operate as a part of the annual trade shows, are likely to expand in the form of weekend seminars. Additionally, some of these seminars may occur as joint activities between NATA state associations and NTEC-member educational institutions. This decentralized arrangement could make seminars accessible to more persons, and allow for concentration upon topics that are of interest at regional or state levels. Another possibility is to broaden the coverage of seminar programs to include topics which are of greater interest to educational program planners and practitioners.

NTEC Annual conferences are slated to continue as they provide a major base for idea exchange. Closely related are the curriculum review and committees, which likewise are expected to expand, possibly through additional conferences in school settings throughout the country. This would place this activity in close proximity to more educators. It is also expected that these conferences will broaden to include students, with topics more of direct interest to this group.

Future plans for the NTEC Directory of Telecommunications Education and Training Programs include adding more categories of programs to the present listing, update it more frequently, and expand its distribution to greater numbers to achieve increased cost efficiency.

Already existing evidence of the usefulness of the newsletter will likely cause it to continue with increased circulation.

The future of the equipment bank is uncertain at present, and awaits a judgment after 1 year of tryout. It's ultimate success will depend upon achieving a satisfactory brokering arrangement between manufacturers and educational institutions that fits within NTEC's resource limits.

NTEC is also interested in direct assistance to teacher training. Preliminary exploration has been made to sponsor a 3-week training session for 15-20 persons from the country who are presently teaching electronics subjects. The purpose would be to introduce these persons to selected topics in telecommunications education. NTEC proposes a shared cost arrangement in which the industry and NATA would provide the costs of training, and the sponsoring educational entity would provide travel and per diem costs. Preliminary reactions by educators are thus far mixed and the activity's future is uncertain.

Taken together, it can be reasonably assumed that NTEC's educational activities are likely to increase in the future. The short-term results of its past and present undertakings offer justification for their continuation and expansion. Meanwhile there is additional evidence of NTEC's willingness to explore new ventures in partnership with public vocational educators.

Labor Market/Changing Technology Information to Vocational Education

The telecommunications industry is most concerned about two of the three kinds of labor market and changing technology information referred to in this study. One, the demand for new and emerging jobs, is affected by the other, the effects of changing technology. The third kind, potential shortages of labor for existing jobs has little relevance. This condition is a result of the recent vintage of this industry, which at the technician level requires persons who have new mixes of skills than were required when the industry's sole reference was to the conventional telephone.

Several forces combine to cause the present situation regarding labor market/changing technology information. One is the uniqueness of telecommunications technology itself. Another is the rapidity with which change is occuring in technology. Still another is the effects of industry growth. And finally there is the effect of employee turnover.

Because of the interaction of these forces little formal collection of information pertaining to labor market projections, and the affect of changing technology, is carried out by either NATA or NTEC. Such information is therefore not available for use by vocational education planners.

What does occur of considerable significance is an informal approach to the sensing of labor market and changing technology projections. This is carried out through informal interacton at numerous NATA and NTEC activities in which presentations, forums, and other events address issues pertaining to future needs.

This informal approach has a direct bearing upon telecommunications educational program design because of NTEC's strategy. Nearly all of NTEC's activities bring together executives from industry and educators from postsecondary vocational and degree granting educational institutions. The individual and collective judgements of these individuals, based upon their recent experience, provides an orderly basis for educational program planning and development.

The uncertain conditions that influence labor market or changing technology analyses at present are likely to prevail in the future. NTEC's answer is to increase occasions when informal projections are made by industry and education representatives, and decentralize these events to regional and state levels to increase their relevance.

When invited, NTEC does provide interested educational planners with broad general projections of the telecommunications industry, but recommends caution about using only that information as a basis for local program development. NTEC further advises local planners to contact industry representatives in their vicinity to gain assistance in determining numbers of technicians needed, and what skills they require. Formal surveys at the local level are recommended and NTEC shares examples of methods and procedures which local planners may use to carry out surveys of needs.

In summary, it is unlikely that NATA and NTEC will provide information about labor market trends and the effects of changing technology of a formal nature to vocational education. At the same time most of NTEC's present and future activities directly or indirectly address the issue of what training should occur and for whom it shall be provided.

APPENDIX A: LETTER TO STATE DIRECTORS OF VOCATIONAL EDUCATION

OSU
The Ohio State University

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION

1960 Kenny Road
Columbus, Ohio 43210-1090

Phone: 614—486-3655
Cable: CTVOCEDOSU/Columbus, Ohio

Consistent with the recently outlined protocol for coordinating NCRVE assistance requests through your office, we are seeking information on state and national trade associations which have contributed to secondary and postsecondary vocational education in your state. Contributions would include providing inputs to vocational education planning and programming (e.g., providing labor market and technological trends information, curriculum consultation, career guidance and placement, updating instructors).

This information will be used as input to the USED/OVAE grant award for conducting the study, "Improving Vocational Education Programming Through Greater Involvement of Trade Associations." A form for providing the needed information is enclosed for your convenience. Please return the completed form or call the information to me on our toll-free number (800-848-4815) by March 14.

Your assistance on this effort will be much appreciated.

Sincerely,

Roy L. Butler
Project Director

RLB/dlk

cc: Robert E. Taylor

APPENDIX B: PROJECT PROFILE

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

PROJECT PROFILE

IMPROVING VOCATIONAL EDUCATION PROGRAMMING THROUGH GREATER INVOLVEMENT OF TRADE ASSOCIATIONS

THE NEED

Current vocational legislation calls for greater cooperation between public educational agencies and private sector organizations. The object is to make employment training more responsive to present and future employment needs through more effective planning and assessment of ongoing programs. Representatives of trade associations have been informally involved in vocational program planning, principally as members of advisory committees. More extensive involvement of trade associations has not occurred, but is thought to have considerable promise.

THE PROJECT

This project will explore policies, processes, and procedures for the greater involvement of trade associations in vocational program planning. Two objectives will be pursued:

- To identify ways to improve vocational education planning through greater involvement of trade associations other than as suppliers of labor market information
- To determine if National or State trade associations are likely sources of labor market information that is useful for vocational education planning

An analysis will be made of the types of labor market data that are assembled by trade associations, including information regarding new and emerging occupations, potential shortages of qualified labor for existing jobs, and the effects of changing technologies in job skills. A case study approach will be utilized. From existing trade associations, approximately 50 in 4 states representing different geographical areas of the country will be studied. Five national associations will be studied intensively and the remaining 40 or so national and state-level trade associations will be queried less extensively to obtain additional insights. Recommendations for further joint action by vocational education planners and trade association representatives will be prepared.

RESULTING PUBLICATIONS/EXPECTED OUTCOMES

A study report will be produced containing the findings of the respective case studies of trade associations. A principal feature of the report will be a set of recommendations for extensive and high-quality involvement of trade associations in vocational education planning, as well as for direct infusions of pertinent labor market information into the planning process. This report will aid national, state, and local representatives of public education agencies and trade associations in strengthening their linkages.

AUDIENCES

The results of this project are intended for national, state, and local vocational education planners, as well as representatives of national and state trade associations.

SPONSORSHIP

This project is sponsored by the Office of Vocational and Adult Education, U.S. Department of Education.

RD-896C 01/16/86-01/15/87

FOR FURTHER INFORMATION, CONTACT
THE NATIONAL CENTER PROGRAM INFORMATION OFFICE
TEL: (614) 486-3655 OR (800) 848-4815
CABLE: CTVOCEDOSU/COLUMBUS,OHIO

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY •
1960 KENNY ROAD • COLUMBUS, OHIO 43210

APPENDIX C: NATIONAL TRADE ASSOCIATION CASE STUDY INTERVIEW SCHEDULE

Assn. Name: ______________________________ Date: __________
Address: ______________________________
____

Contact Person: ______________________________ Phone: _________
Position: ______________________________

PART I: ACTIVITIES

1.0 Name an activity with which your association has been or is currently involved that you feel has improved the planning and/or operation of vocational and technical education programs in our public high schools and/or postsecondary colleges: ______________________________

1.1 HOW WAS THE ACTIVITY IDENTIFIED?

1.11 Who initiated the activity?
____a. The Assn.
____b. Vo-ed
_____c. Joint committee
_____d. Other ______________

1.12 Why was this activity initiated?
____a. Requested by vo-ed
____b. Assn. official req.
_____c. Assn. committee
_____d. Other _________

1.13 Who approved conducting this activity?
____a. Assn Pres.
____b. Assn. Educ. Spec.
____c. Board of Directors
____d. Other ____________

1.2 HOW WAS THE ACTIVITY PLANNED?

1.21 Who gave leadership to planning the activity?

____a. Assn. individual
____b. Vo-ed individual
____c. Assn. committee
____d. Vo-ed committee
____e. Joint committee
____f. Other ___________

1.22 What planning steps and procedures were used?

1.23 What planning responsibilities were assumed by the association?

1.24 What planning responsibilities were assumed by vocational education?

1.3 HOW WAS THE ACTIVITY CONDUCTED?

1.31 Who conducted the study?

____a. Assn. rep.
____b. Vo-ed rep.
____c. Jointly conducted
____d. Other_________________

1.32 What tasks were conducted by persons from your association?

1.33 What tasks were conducted by vocational educators?

1.34 What resources, other than people, were used in conducting the activity?

____a. Financial resources
____b. Curriculum materials
____c. Equipment
____d. Other ________

1.35 Who provided the funding and other resources needed?

____a. The Assn.
____b. Voc-Ed
____c. Jointly provided
____d. Other ________________

1.36 For what primary audience was the activity intended?

____a. Vo-Ed students
____b. Vo-Ed teachers
____c. Vo-Ed administrators
____d. Entire school/college
____e. Other _______________

1.37 What was the duration of the activity?

a. _____ hours
b. _____ days
c. _____ weeks
d. _____ months
e. _____ years

1.4 WHAT BENEFITS RESULTED FROM THIS ACTIVITY?

1.41 How did your association benefit?
____a. Influenced program decisions
____b. Members obtained better employment
____c. Good publicity
____d. Other __________

1.42 How did vocational education benefit?
____a. Received advice
____b. Received materials
____c. Received equipment
____d. Received financial assistance
____e. Received technical instruction
____f. Other ___________

1.43 What factors or conditions facilitated conducting this activity?

1.44 What factors or conditions inhibited conducting this activity?

2.0 Regarding your associations potential to make future contributions to planning and conducting vocational programs:

2.1 Do you feel the potential for making future contributions is likely to: _____a. Increase
____b. Decrease ____c. Remain about the same

2.2 What contributions could your association make that would be the most beneficial to vocational education?

2.3 What type of activities would be most beneficial to your association's goals?

2.4 What organizational constraints will likely influence the type of activities your association can support?

____a. Cost to the association
____b. Benefit to the association
____c. Availability of resources needed
____d. Other ____________________________________

2.5 (a) What should be the role of your association to initiate activities?

(b) What should be the role of vocational education to initiate activities?

2.6 (a) Where in the structure of your association would the most authority and responsibility reside for linkages with vocational education?

(b) Where in the structure of vocational education are the most effective linkage points for your activities?

2.7 (a) What kinds of funding and resources for these activities should be provided by your association?

(b) What kinds of funding and resources for these activities should be provided by vocational education?

APPENDIX D: CASE STUDY INSTRUMENT FOR LABOR MARKET/CHANGING TECHNOLOGY INFORMATION

Assn. Name ________________________________
Contact Person ____________________________ Date ____________

PART II: LABOR MARKET INFORMATION

3.0 Regarding labor market information needed by vocational education so as to be responsive to employment needs:

3.1 DOES YOUR ASSOCIATION COLLECT INFORMATION ABOUT THE EMPLOYMENT DEMAND FOR NEW AND EMERGING JOBS IN YOUR TRADE? __a. Yes ___b. No (If no, go to 3.2)

3.11 How is this information collected and assembled?
____a. Formal survey ____c. Secondary sources
____b. Informal survey ____d. Other _____________

3.12 How often is this type of information updated?

3.13 Has this information been made available to vocational educators?
____a. Yes (If yes, explain how) ___c. Don't know
____b. No (If no, ask why)

3.14 Has this information been used by vocational educators?
____a. Yes (If yes, explain how) ____c. Don't know
____b. No

3.2 DOES YOUR ASSOCIATION COLLECT INFORMATION REGARDING POTENTIAL SHORTAGES OF SKILLED LABOR FOR EXISTING JOBS IN YOUR TRADE?

____a. Yes ____b. No (If no, go to 3.3)

3.21 How is this information collected and assembled?

____a. Formal survey ____c. Secondary sources

____b. Informal survey ____d. Other ______________

3.22 How often is this type of information updated?

3.23 Has this information been made available to vocational educators?

____a. Yes (If yes, explain how

____b. No (If no, ask why) ____c. Don't know

3.24 Has this information been used by vocational educators?

____a. Yes (If yes, explain how) ____c. Don't know

____b. No

3.3 DOES YOUR ASSOCIATION COLLECT INFORMATION ABOUT THE EFFECTS OF CHANGING TECHNOLOGY ON THE TYPE OF JOB SKILLS NEEDED IN YOUR TRADE?
____a. Yes ____b. No (If no, go to 4.0)

3.31 How is this information collected and analyzed?
____a. Formal survey ____c. Secondary sources
____b. Informal survey ____d. Other ____________

3.32 How often is this type of information updated?

3.33 Has this information been made available to vocational educators?
____a. Yes (If yes, explain how)
____b. No (If no, ask why) ____c. Don't know

3.34 Has this information been used by vocational educators?
____a. Yes (If yes, explain how) ____c. Don't know
____b. No

4.0 Regarding the future potential of your association to provide useful labor market information to vocational education:

4.1 What is the likelihood that your association will be able to supply labor market information in the future?

4.2 What special arrangements, if any, could be made to assure the future availability of this type of information?

4.3 Are there any reasons why your association would not be able to share this information with vocational educators?

APPENDIX E: INTERVIEW GUIDE AND DIRECTIONS

NATIONAL TRADE ASSOCIATION STUDY

INTERVIEW GUIDE
AND
DIRECTIONS

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD · COLUMBUS, OHIO 43210

What Kind of Information is Desired?

The general subject of inquiry is the contribution of your association to vocational and technical education in the public high schools and postsecondary technical institutes and colleges of the country. There are two aspects of interest to us:

- o Contributions by your association to vocational program planning and operation through a variety of means
- o Availability of information from your association about the labor market and technological change in your area of interest which have implications for vocational and technical education program planning and operation.

With each aspect, we will be examining what currently exists and what future prospects seem promising. We will also be looking at the conditions and circumstances which surround each activity, including facilitators and barriers which may apply. The graphic which follows portrays the focus of our major points of inquiry.

	PRESENT	**FUTURE**
Vocational Program Planning and Operation	How activities are identified, planned, and conducted? What are the benefits?	What activities are possible in the future?
Labor Market Information	What information is available regarding: - new jobs - shortages for current jobs - effect of changing technology on skills needed	What information may be available in the future?

What Sources of Information are Desired?

We anticipate that most information will come from one or more interviews with knowledgeable and authoritative persons from your association. These persons are to be selected by your association. Another important source of information could be any documents and materials which have been developed by the association for use with vocational and technical education institutions and professionals.

How Will the Interview Process Occur?

We see the process as both informal and relaxed. If two or more persons are assigned to respond to various questions, the order of interviewing can be at their convenience. Questions do not need to be answered in any particular sequence. The interviewer will record notes from the responses. If an interviewee does not object, the conversation will be audio-taped.

What About Confidentiality of Information?

A case study report, which reveals the identity of your association and its activities with vocational and technical education, will be included in the final project report. This report will be disseminated to interested representatives of trade associations and vocational and technical education professionals throughout the United States. A designated representative of your association will have an opportunity to review and approve a final draft of this information before it is released, but the names of the individual interviewees will be kept confidential.

What Preparation Should be Made for the Visit and Interviews?

(1) Identify an official contact person from your association to handle arrangements for the visit.

(2) Review the kinds of information desired and determine who can most appropriately respond to the various items. To the extent possible, these persons should have firsthand knowledge and speak with authority for your association. The questions may be divided among various persons if that is appropriate.

(3) Identify interviewees and provide them with a copy of these guidelines for the interview.

(4) Assemble any printed documents and other materials which may give an additional perspective or support to the interview responses.

(5) Finalize dates and locations of the visit and interviews with the National Center representative.

APPENDIX F: PLANNING AND PROGRAMMING INTERVIEW GRID

TRADE ASSOCIATION INVOLVEMENT IN VOCATIONAL AND TECHNICAL EDUCATION PLANNING AND PROGRAMMING

KIND OF ACTIVITY		PAST/PRESENT ACTIVITIES										FUTURE ACTIVITIES
		1	2	3	4	5	6	7	8	9	10	
INITIATING AND APPROVING	Who initiated											
	Why initiated											
	Who approved											
PLANNING	Who led planning											
	Planning steps & procedures											
CONDUCTING	Who conducted											
	Tasks by association											
	Tasks by Vo-Tech Ed.											
PROVIDING RESOURCES	Resources needed											
	Who provided funding											
PRIMARY AUDIENCE												
DURATION												
BENEFITS	To the association											
	To Vo-Tech Ed											
FACILITATORS												
CONSTRAINTS												

APPENDIX G: LABOR MARKET/CHANGING TECHNOLOGY GRID

LABOR MARKET/CHANGING TECHNOLOGY INFORMATION TO VO-ED BY TRADE ASSOCIATIONS

	PAST/PRESENT ASSOCIATION ACTION					POTENTIAL FUTURE ASSOCIATION ACTION		
TYPE OF INFORMATION	Association Collects?	How Collected?	How often Updated?	Available to Vo-Ed?	Used by Vo-Ed?	Able to supply in future?	Special Arrangements Needed?	Constraints for Sharing?
EMPLOYMENT DEMAND FOR NEW AND EMERGING JOBS								
POTENTIAL SHORTAGE OF SKILLED LABOR IN EXISTING JOBS								
EFFECT OF CHANGING TECHNOLOGY ON TYPE OF JOB SKILLS NEEDED								

APPENDIX H: CENTERGRAM ARTICLE

CENTERGRAM

The National Center for Research in Vocational Education
The Ohio State University • 1960 Kenny Road • Columbus, Ohio 43210

April 1986 *Twenty-one Years of Leadership through Scholarship* Volume XXI, No. 4

Research In Progress

Involvement of Trade Associations with Vocational Education

"The constructive involvement of the private sector in public vocational education" is mandated by the Carl D. Perkins Vocational Education Act. One way the National Center is responding is by studying trade associations.

Trade associations usually focus on a kind of product or service (such as construction, retail, or transportation), and can potentially provide valuable input into the vocational education process in a number of ways. Project director Roy L. Butler points out that "they naturally watch for technological trends that will impact on their members. They collect labor market data, sometimes very extensive, on emerging occupations, potential shortages of qualified labor, and so on. They can do a good deal to improve vocational education program planning at secondary and postsecondary levels.

"But when it comes to the linkage between associations and vocational education—well, we don't know yet how good it is, but in some cases it looks like it could be a great deal better."

The project staff will conduct an intensive case study of five national trade associations and approximately 45 trade associations in 4 states. The project report will suggest ways planners and others can improve trade association linkages with secondary and postsecondary vocational education.

REFERENCES

U.S. Congress. Carl D. Perkins Vocational Education Act. 98th Cong., 2d sessi., 1984. Rept. 98-1129.

Elliman, P.J. Critical Issues in Vocational Education: An Industrialists View. Occasional Paper no. 95. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983.

Gruber, Katherine (Editor). Encyclopedia of Associations (20th Edition, Volumes 1 and 2). Detroit, MI: Gale Research Company, 1986.

Maurice, C. Private Sector Involvement with the Vocational Community: An Analysis of Policy Options. Information Series no. 281. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984.

National Trade and Professional Association of the United States. Washington, DC: Columbia Books, 1986.